Industrial Survey of Baltimore

DECEMBER, NINETEEN FOURTEEN

BALTIMORE, MARYLAND


BALTIMORE
METROPOLITAN DISTRICT
DISTRICT NO. 3
DISTRICT NO. 9
DISTRICT NO. 14
DISTRICT NO. 15
DISTRICT NO. 1
DISTRICT NO. 12
DISTRICT NO. 13
BALTIMORE CITY
BACK RIVER
PATAPSCO RIVER
ANNE ARUNDEL COUNTY
Rockland
Sherwood
Ruxton
Towson
Pikesville
Mt. Washington
Brighton
West Arlington
Melvale
Tuxedo
Roland Park
Govans
Hamilton
Lauraville
Parkville
Putty Hill
Gardenville
Stemmers Run
Dickeyville
Oella
Catonsville
Ellicott City
Violetville
Westport
Mt. Winans
Lansdowne
Halethorp
Orange Grove
St. Denis
Pumphery
Brooklyn
Fairfield
East Brooklyn
South Baltimore
Highlandtown
Canton
St. Helena
Sparrows Point
Fort Howard

Industrial Survey of Baltimore

Report of Industries Located Within
The Baltimore Metropolitan District

DECEMBER, NINETEEN FOURTEEN
BALTIMORE, MARYLAND

THE INDUSTRIAL SURVEY OF BALTIMORE

Projected by J. E. ALDRED and carried out under the supervision of E. V. ILLMER, Secretary, and the following Advisory Committee

DR. JACOB H. HOLLANDER
MR. JOHN R. BLAND
MR. FREDERICK W. WOOD

DEDICATED TO THE CITIZENS OF BALTIMORE

JANUARY 10, 1915

MR. J. E. ALDRED,

Industrial Survey of Baltimore, Baltimore, Md.

My dear Sir:

In conformity with the general plan submitted, I have made and completed a thorough and accurate survey of the local situation as relating to manufactures and beg to submit my conclusions herewith.

The utmost care and supervision were exercised in both the collection and compilation of the statistics embraced in the statements which accompany the report, and the trade comments are the result of exhaustive and intimate study of conditions peculiar to the industries considered. The foremost aim was to display the existing status of each industry, and it may be possible that through rigid adherence to this principle, one or more of the manufacturers who have co-operated in the Survey may take exception to the statements of fact as they relate to their particular business, but to have deviated would have defeated the prime object of an industrial survey.

In transmitting this report, I beg leave to state further that the plans as originally conceived were subjected to extensive alterations and modifications necessitated by inherent difficulties encountered in collecting the essential information, due largely to want of confidence in the intent and purpose of the Survey, which in most cases was occasioned by lack of familiarity with the conditions that prompted this investigation.

Baltimore's citizens have not thoughtfully analyzed the local industrial conditions and carefully studied their opportunities, a fact borne out by certain conclusions to be drawn from the data compiled in this report.

That Baltimore needs additional industries employing both skilled and unskilled workmen in large numbers is evidenced by the universal complaint of local manufacturers requiring an abundance of female help, who contend that they are considerably handicapped through the restriction of male labor to a limited number of pursuits resulting in consequent lack of attraction for families to locate here.

In addition to the co-operation of individual manufacturers, trade and civic organizations in general materially assisted in accomplishing the aims of the Survey. These associations are working energetically to overcome characteristics of selfishness and to instil civic pride into the community to the end that an altruistic spirit may prevail for the advancement of the welfare of Baltimore and its citizens.

Anent commodities produced, there was a marked increase in the value of manufactures for the year 1913 compared with 1909, the latter being the most recent census issued by the Government. To the student this may appear lacking in conformity with previous data, but as the compiler of the statistics herewith submitted, I have positive knowledge of conditions which have contributed to this large gain and it must suffice to state that the figures given are correct in every particular. There is a contingency that the Census of 1914, which will be made under the direction of the Government, will not show the volume of business reported by the Industrial Survey for the following fundamental reasons: Industrial depression prevailing during the first six months of the present year and subsequent stagnation of business in the early fall due to European hostilities.

Yours respectfully,

December 15, 1914.

E. V. ILLMER, Secretary.

My dear Mr. Aldred:

At your request we have reviewed the contents of the report comprising an Industrial Survey of Baltimore.

Acting upon your further suggestion that we should make such recommendations as would render the Survey of practical usefulness to the citizens of Baltimore, we have prepared the report which accompanies this letter.

We have not found it practicable to verify the detailed statements and figures set forth in the report, but we have no reason to question their essential accuracy.

Very truly yours,

JACOB H. HOLLANDER,
JOHN R. BLAND,
FREDERICK W. WOOD.

January 10, 1915.

REPORT OF THE ADVISORY COMMITTEE

The Committee to whom was referred the text and tables of the Industrial Survey have given careful attention to the matter therein contained and beg to present the following opinions:

At the outset, the Committee deem it proper to recognize the services rendered the City of Baltimore by those responsible for the Survey. For the first time an attempt has been made to take a descriptive inventory of our industrial life, not as an academic performance nor as an advertising project, but as a deliberate and sober inquest designed to acquaint our citizen-body with facts as they are—to the end that the purpose of the Survey may be realized.

The one clear and emphatic impression left upon our minds by the data hereinafter presented is that the industrial growth of Baltimore has been less pronounced than it should have been, having in mind the general economic progress of the country and the forward strides of other cities no more favorably circumstanced.

The population of Baltimore has increased less rapidly than that of certain competing communities and it has fallen back in relative rank among the great cities of the United States. Real estate values, a reasonable index of industrial activity, have been, with some notable exceptions, relatively immobile and there have been considerable areas of absolute decline marked by vacant properties and reduced rentals. The number of newly established industries is less considerable than it seems reasonable to expect and there are certain discouraging instances of the decay of one-time flourishing establishments. There is no evidence of any considerable influx of industrial workers, such as inevitably occurs in a growing manufacturing center.

We deem it mistaken policy in anywise to suppress or gloss over the fact that the industrial progress of Baltimore has been thus sluggish. There is less reason for such suppression because the situation which we face is an unnecessary and and remediable one. If we were in our present situation by virtue of inevitable conditions, it would perhaps be expedient to put the best face possible upon matters and to magnify our position, defective though it might be. Such is not, however, the case. The forces which have delayed the industrial advance of Baltimore have resulted from an economic transition the ill effects of which have been too long tolerated and the removal of which is possible and practicable.

Prior to the Civil War, the dominant economic activities of Baltimore were commerce and trade. Manufactures there were—and important and prosperous ones at that. But it was in the direction of trade—foreign and domestic—that the energies of our business men were for the most part expended. By it the great fortunes of the city had been acquired—there our young men were accustomed to look for a business career—to it our financial institutions were adjusted and in it our enterprise found expression.

The outbreak of hostilities between the States brought this fabric to the earth with a crash. Our markets were destroyed—our credit was impaired—and the great region for which we had been the market place and base of supplies was devastated. The interruption of accustomed lines of communication forced our business energies into new channels, and that which we lost in trade we sought to regain in manufactures. It was not an easy transition and the difficulties incident thereto were aggravated by failure to realize the situation—to supplement the natural impulses of self interest as a motive to business enterprise by deliberate communal policies. In a word the industrial retardation of Baltimore is largely traceable to the absence of organized effort to make easy an abrupt change in our business life.

A concrete illustration of this tendency has been the failure of Baltimore to make any material progress in the years immediately preceding the Industrial Survey, either in the aggressive development of existing manufacturing establishments or in the attraction of new industries. There has been an expanding tendency in specific industrial pursuits—copper smelting and refining, the manufacture of tin cans and specialties, preserving and canning fruits and vegetables, and slaughtering and meat packing. Opposed to this, on the other hand, Baltimoreans have within the past decade witnessed the gradual curtailment, and in some instances the absolute elimination of certain industrial activities which had they been financed and husbanded with the same measure of efficiency and diligence that prevailed in the cases of the trades mentioned above, would probably have attained as great or greater development. The industries which have suffered local decline in this manner include those engaged in the manufacture of railroad cars and construction, sugar (refining), iron bars, chrome, crockery and pottery, boots and shoes, wall paper and soap.

The citizen-body of Baltimore is not differently constituted from that of any other progressive community. Individual initiative is no less, business talents are as pronounced, resourcefulness and enterprise are as prevalent. That which has been lacking is a collective consciousness and a communal effort which should take account of existing difficulties growing out of the historical change of Baltimore from a commercial to a manufacturing city, and which should encourage and facilitate the endeavors of individual enterprise to adapt itself to this necessity.

The positive elements favorable to a marked industrial advance are present

at this time in Baltimore in no less degree than in any other city in the United States. The three great essentials in competitive industry are (1) LABOR, (2) FUEL, (3) FREIGHT RATES. In other particulars—geographical location, manufacturing sites, taxation exemption, climatic conditions, municipal spirit—Baltimore probably enjoys in the net aggregate not less favorable conditions than exist elsewhere. But in the matter of labor supply, coal and transportation, Baltimore possesses clear differential advantages.

It will appear from the detailed exhibits (Tables Nos. 1 and 2) appended to this report, that the average scale of wages in representative industries is markedly lower in Baltimore than in other competing centers, and that such lower rates are not in consequence of underpayment, but proceed from a lower cost of living due to the cheaper price of staple foods, house rentals and living conveniences. In the matter of fuel, a marked advantage appears in the fact that the delivered all-rail cost of bituminous coal to Baltimore is $2.80 per ton as against $3.15 per ton to New York or to Boston. Finally, the superior advantages of Baltimore in the matter of freight rates are no less striking, as is clearly set forth in the appended maps (Page 77) to which particular attention is directed.

If the facts collected by the present Survey be examined with regard to the future industrial growth of Baltimore and in the light of the foregoing statements, it becomes apparent that marked development should be possible in three directions, by the encouragement of:

1. Industries entirely unrepresented in Baltimore for whose products there is now an actual local demand.

2. Industries entirely unrepresented in Baltimore but conspicuously successful in similar communities.

3. Industries now in operation in Baltimore but capable of marked expansion.

Noteworthy examples of industries included in these several groups are as follows:

1. Industries whose products would meet the needs, for materials or partly finished wares, of industrial establishments now located in Baltimore:

Wagon materials of iron and steel
Malting house
White lead
Sugar refinery
Machine tools
Plate and window glass
Hardware and accessories used in the leather, trunk and electrical trades
Builders' hardware
Card board
Printers' ink
Thread, twine and rope
Buttons
Tin and terne plate
Bar iron mill
Cacao products
Sweat bands and hat bands

2. Industries which have attained prominent development in other cities, but entirely without representation in Baltimore:

FOUNDRY AND MACHINE SHOP PRODUCTS

Agricultural implements
Automobiles
Electrical motors, machinery and appliances
Fire arms
Edge tools
Nails and spikes
Oil stoves
Lawn mowers
Hydraulic rams, hand and steam pumps
Radiators
Steam and hot water furnaces
Wrought iron pipe

HARDWARE

Locks
Brackets
Wood and machine screws
Oilers
Spirit levels
Picks and shovels
Spades
Scoops
Files
Cutlery
Metal weather strip
Saws
Hammers
Mallets
Screw drivers
Wrenches
Chains

MEN'S FURNISHINGS

Collars and cuffs
Elastic woven goods
Gloves
Garters
Leather belts

TEXTILES

Hammocks
Fancy jackets
Cotton and silk hose and half hose
Knit underwear
Combination suits
Wristers
Cordage and twine other than cotton
Thread

HOUSEHOLD SPECIALTIES

Carpet sweepers
Carpets
Chinaware
Clothes wringers
Curtain rods
Oil stoves
Mops
Washing machines

GLASS

Plate and window glass
Jars
Lamp chimneys
Tumblers
Pressed and cut glassware

RUBBER

Clothing
Mats
Tubing
Brushes
Bands
Boots
Shoes
Toys
Medical and hygienic appliances

STATIONERY GOODS AND OFFICE SUPPLIES

Index and card systems
Copying devices
Inkstands
Desk pads
Blackboards
Playing cards
Metal office furniture

LEATHER

Pocket books and satchels
Chair seats
Garments

LUMBER

Excelsior
Chain and bucket pumps
Refrigerators
Kitchen cabinets

WOODEN GOODS

Butter bowls
Dishes
Chopping bowls
Clothes pins
Tooth picks
Wash boards
Churns
Step ladders
Wash tubs and buckets

FOOD PRODUCTS

Sugar and molasses refining
Cereals, exclusive of hominy
Condensed milk

MISCELLANEOUS

Lamps
Wall paper
Watches and clocks
Matches
Brass and other metal beds
White lead
Lead pencils
Scales and balances
Sporting and athletic goods
Starch
Tin and terne plate
Tin foil
Aluminum pots and pans
Oil cloth and linoleum
Metallic packing
Ice cream freezers
Wire screen
Buttons other than metal
Fire extinguishers
Candles
Wheelbarrows

3. Industries represented by plants with limited facilities, but capable of marked expansion:

Envelopes	Rug weaving
Soft and stiff felt hats	Cooperage
Children's clothing	Trunks and suit cases
Suspenders	Saws
Varnishes	Ink, printing and writing
Artificial flowers	Picture frames
Blacking	

To aid in the attraction of new establishments and the expansion of existing ones, it seems to the Committee that effort might profitably be expended in improving the local demand for local products. As at present constituted, Baltimore manufacturers are supplying but a small part of our home consumption and that of an essentially neighborhood kind. We realize that what has been called the "territorial division of labor" is constantly extending the area from which a local demand is met, and that in the long run consumers will buy only in those markets where the things desired can be obtained upon the most favorable terms. But it seems clear that the wide gap between local producers and local consumers tends to produce a feeling of chronic apathy toward local manufacturing enterprises, resulting in discouragement to existing establishments and in neglect of new enterprises.

The various trade and civic bodies of Baltimore might very properly individually and in co-operation undertake the work of establishing closer business relations between the manufacturers and merchants of the city to the end that local effort should receive proper encouragement and stimulation.

Going beyond this, the Committee, however, venture to impress upon the varied interests of Baltimore—its commercial organizations, its financial bodies, its owners of real estate, its men of affairs generally, all of those in fact who have at heart the future growth and prosperity of the city—the necessity for taking some definite and immediate step towards utilizing the information here placed before them to the ultimate end that prompted the movement—the upbuilding of our city.

The Committee have been deeply impressed with the great value of the Industrial Survey in presenting clearly and in detail the industrial situation in Baltimore—its past development, its present condition and its future possibilities.

Unless, however, the citizens of Baltimore are willing to take hold of the work and willing to give evidence of their interest by the formation of some agency which will aid in developing, stimulating, increasing and promoting the industrial interests of Baltimore, this Survey and all the efforts expended in connection with it will amount to naught.

This subject is also of vital and far-reaching importance to the City of Baltimore and to the State of Maryland. If the proposed plan of development meets with a measure of success it is bound to result in an increase in industrial activities, in population, in the demand for dwelling houses and in the requirement for improved and unimproved property for factory sites—all of which mean an increase in the basis of taxation and in municipal and state revenue.

As a practical proposal the Committee urge the immediate formation of a corporation empowered to further the above interests. A dozen of the best known men of Baltimore should act as its incorporators. These men should be carefully selected from the financial, industrial and commercial walks of life. They should be thoroughly imbued with the absolute necessity and importance of the work to be undertaken.

The capital of the company to be formed should be from $100,000 to $250,000, this to be increased as the use for larger capital may be found necessary. The subscribed capital should be paid into the treasury on the call of the board. The sum so acquired should be utilized in lending at legal rates amounts to desirable industrial enterprises, either to those already located in Baltimore or to those that may be subsequently induced to locate here.

The main purpose of the corporation would be to advance money for the assistance of small industries. Preference should be given to establishments of moderate size, whose success would be reasonably assured, and which give promise of growth from small beginnings into larger and greater institutions.

It is interesting to speculate on the cumulative good that would accrue to the community in the course of ten years if a certain number of such industries, each employing a moderate working force, were given financial assistance each year. Of the total number of such concerns assisted a limited number would be unsuccessful, but the remainder would have become self-supporting and would probably have increased their respective undertakings so as to require the employment of a large body of workers with resulting stimulus to the demand for houses and necessaries. Such a movement would in itself work a remarkable change in the local industrial situation.

Although the especial advantage of this new financing corporation would lie in its purpose and ability to assist smaller industries susceptible of larger growth, the corporation would also be in a position to consider cases of local concerns which require additional capital, and to assist them to properly present their propositions to the financial institutions and the public. Similar offices could be rendered to outside projects seeking local establishment, in the way of arousing public interest, subscribing part of the required capital and aiding in obtaining subscriptions to the remainder of the capital stock.

No gifts of money are to be made to any industry whatever. All advances made are to be in the shape of loans, pure and simple, and are to be returned to the corporation within a stated period of time. These advances should be

secured by the issuance of preferred stock of the borrowing corporation, bonds, chattel mortgages, or in any manner that may be considered best by the board of directors.

As a condition precedent to such loans, the board should have the right to delegate one or more persons to thoroughly study the operation and condition of any industry seeking aid and the character of those in charge thereof; and to provide also for representatives upon the directorate or in the active management, if such be deemed desirable, who would keep in touch with the progress of the establishment and be in a position to make report from time to time to the lending corporation.

Such a corporation must not be considered an eleemosynary institution in any sense. It should become known as an organization in its best and broadest sense for the promotion and development of such industrial enterprises as are conducted on sound principles of business, or which show a willingness to be so conducted.

One of the most important services which such a company could render would be to encourage the existing financial institutions and capitalist interests of Baltimore to participate in new industrial enterprises. The Committee are of the opinion that whatever hesitation may heretofore have shown itself on the part of local capital in this direction, has resulted not from any unwillingness, but rather from the absence of any agency of inquiry and recommendation. The company could thus serve as an intermediary between prospective enterprises and existing financial institutions, bringing the two into personal relations and instituting the necessary inquiries upon which capital investment ordinarily waits.

In all probability, some of the industries to which loans may be made will not succeed. But with a watchful and careful interest on the part of the lending corporation in the affairs of the borrower these failures should be few and the losses from such cause small. The Committee believe, however, that most of the industries thus aided will succeed. It will be from their success, evidenced by the tangible return to stockholders, that the advancement of the city's interests will result.

The foregoing recommendations are not intended to exhaust the possibilities or usefulness of the Survey. There will be found other things therein which will commend themselves to existing trade and civic bodies as having a direct bearing on their particular functions and capable of successful development.

The purpose of the Committee has been, by presenting certain definite recommendations, to insure some early practical result of advantage to the city and its population.

Respectfully submitted,

JACOB H. HOLLANDER,
JOHN R. BLAND,
FREDERICK W. WOOD.

TABLE No. 1

AVERAGE SCALE OF WAGES

As of May 15, 1913

	BALTIMORE	New York	Boston	Philadelphia	Pittsburgh
Bakery trades	.2489	.3089	.3249	.3184	.3628
Building trades	.4462	.5603	.4973	.4963	.5135
Granite and Stone	.5208	.5887	.5359	.5208	.5417
Metal Trades	.3480	.4306	.3607	.3875	.4055
Millwork trades	.3056	.3321	.4500	.4300	.3889
Printing trades—					
Book and Job	.3467	.5135	.4231	.3919	.3991
Newspaper	.4580	.6746	.6417	.4889	.4982

Authority: Bulletin of the United States Bureau of Labor Statistics—Whole No. 143. Wages and Hours of Labor—Series No. 7.

TABLE No. 2

RETAIL PRICE OF STAPLE FOODS

As of December 15, 1913

From Statistics Compiled by the United States Government

	BALTIMORE	New York	Boston	Philadelphia	Pittsburgh
Sirloin steak—lb.	0.222	0.257	0.362	0.298	0.270
Chuck steak—lb.	.150	.156	.162	.176	.166
Hens—lb.	.203	.207	.241	.217	.248
Lard—lb.	.150	.159	.158	.152	.156
Flour—bag—⅛ bbl.	.764	.787	.871	.758	.776
Corn meal—lb.	.0250	.0342	.0373	.0280	.0302
Storage eggs—doz.	.332	.366	.359	.364	.349
Creamery butter—lb.	.407	.409	.381	.413	.421
Sugar—lb.	.0492	.0486	.0535	.0500	.0550
Milk—qt.	.088	.090	.089	.080	.092
Total	$2.3902	$2.5138	$2.7138	$2.5360	$2.5632

Comparative Purchasing Power of One Dollar

	BALTIMORE	New York	Boston	Philadelphia	Pittsburgh
All Staples considered	100.00	95.09	88.08	94.25	93.25

STATEMENT No. 1

VALUE OF MANUFACTURES AND CLASSIFICATION OF INDUSTRIES

BALTIMORE METROPOLITAN DISTRICT—YEAR 1913

REFERENCE No.	INDUSTRY — CHARACTER OF	Number of Establishments Engaged In	EMPLOYEES—NUMBER OF — SKILLED — Male	Female	UNSKILLED — Male	Female	EXECUTIVE SALES AND CLERICAL — Male	Female	TOTAL	PRODUCT—VALUE AND DISPOSITION — VALUE OF MANUFACTURES	PER CENT. OF TOTAL MANUFACTURES	LOCAL SALES	SHIPMENTS	REMARKS
1	BREWING AND DISTILLING:													
	Malt Liquors	12	669	-----	91	-----	145	28	933	$5,820,841	1.65%	$5,529,799	$ 291,042	See Page 3.
	Spirituous Liquors	14	141	-----	188	-----	105	7	441	2,951,867	.83%	837,532	2,114,335	See Page 4.
2	CEMENT, CLAY AND PRODUCTS:													
	Builders' Materials	19	185	-----	187	-----	33	3	408	452,831	.13%	323,819	129,012	See Page 4.
	Brick	9	487	-----	881	-----	37	2	1,407	1,252,134	.35%	935,655	316,479	See Page 5.
	Crockery and Pottery	3	12	55	-----	-----	3	-----	70	204,000	.06%	134,000	70,000	See Page 6.
	Paving and Roofing Materials	7	123	-----	606	-----	64	3	796	4,062,766	1.15%	3,994,080	68,686	See Page 6.
3	CHEMICALS, OILS, ACIDS, ETC.:													
	Acids, Fertilizer, etc.	23	749	3	1,008	-----	446	51	2,257	15,976,306	4.52%	2,229,783	13,746,523	See Page 7.
	Paints, Varnishes and Dyes	11	98	1	87	-----	90	24	300	1,933,084	.55%	323,550	1,609,534	See Page 8.
	Soaps and Perfumery	11	21	26	33	25	31	14	150	441,519	.12%	190,211	251,308	See Page 9.
	Miscellaneous Chemicals and Oil	15	370	-----	678	7	346	41	1,442	11,965,946	3.39%	2,253,500	9,712,446	See Page 10.
4	DRUGS AND PREPARATIONS	65	354	440	200	154	389	165	1,702	6,673,355	1.89%	987,346	5,686,009	See Page 10.
5	FOOD PRODUCTS:													
	Bakery Products and Flour	381	860	62	666	269	487	98	2,442	6,740,474	1.91%	4,221,528	2,518,946	See Page 11.
	Cereals and Spices	5	36	25	57	16	33	5	172	2,068,581	.59%	417,699	1,650,882	See Page 12.
	Preserved and Canned Foods	52	876	515	1,935	2,914	378	75	6,693	12,971,721	3.67%	1,028,317	11,943,404	See Page 12.
	Slaughtering and Meat Packing	49	826	-----	359	-----	158	9	1,352	18,533,317	5.25%	8,451,605	10,081,712	See Page 13.
	Candy and Confectionery	50	429	831	266	709	153	60	2,448	5,680,978	1.60%	1,317,578	4,363,400	See Page 14.
	Miscellaneous	12	41	28	73	87	82	50	361	2,199,167	.62%	374,755	1,824,412	See Page 15.
6	FOUNDRY AND MACHINE SHOP PRODUCTS:													
	Bridge and Structural Iron	11	408	10	206	-----	50	8	682	1,344,388	.38%	548,780	795,608	See Page 16.
	Electrical Equipment	7	134	-----	11	-----	45	4	194	478,870	.14%	299,225	179,645	See Page 16.
	Machinery	51	2,871	2	946	20	323	28	4,190	6,730,245	1.90%	1,664,261	5,065,984	See Page 16.
	Railway Cars and Construction	6	3,641	-----	1,105	-----	463	2	5,211	11,422,110	3.23%	1,990,000	9,432,110	See Page 17.
	Miscellaneous	39	2,571	68	3,430	-----	416	35	6,520	11,833,751	3.35%	1,209,348	10,624,403	See Page 18.
7	GLASS AND PRODUCTS:													
	Bottles and Glassware	5	398	1	785	59	68	11	1,322	1,681,521	.48%	490,915	1,190,606	See Page 20.
	Mirrors and Stained Glass	6	69	-----	13	-----	8	1	91	158,494	.04%	92,912	65,582	See Page 20.
8	JEWELRY AND SILVERWARE:													
	Jewelry	14	61	11	24	-----	17	3	116	322,100	.09%	187,780	134,320	See Page 21.
	Silverware	10	279	-----	43	-----	57	10	389	974,000	.28%	458,500	515,500	See Page 21.
	Miscellaneous	8	30	5	4	-----	4	2	45	64,000	.02%	31,500	32,500	See Page 22.
9	LEATHER AND MANUFACTURES:													
	Belting	7	82	299	27	-----	44	29	481	1,690,452	.48%	159,500	1,530,952	See Page 22.
	Shoes	7	339	184	39	31	70	10	673	1,885,000	.53%	511,750	1,373,250	See Page 23.
	Harness and Saddlery	14	226	7	7	6	70	4	320	783,399	.22%	148,637	634,762	See Page 23.
	Finishing of Leather	4	18	-----	33	-----	6	-----	57	128,500	.03%	39,000	89,500	See Page 24.
	Miscellaneous	5	60	2	10	-----	18	3	93	165,000	.05%	100,300	64,700	See Page 25.
10	LUMBER AND MANUFACTURES:													
	Baskets, Willow Ware, etc.	23	90	6	26	2	8	5	137	235,834	.07%	150,307	85,527	See Page 25.
	Boxes, Barrels, etc.	29	1,008	105	782	4	110	8	2,017	3,940,232	1.11%	2,415,084	1,525,148	See Page 26.
	Furniture	35	1,297	78	571	-----	171	41	2,158	4,754,330	1.35%	1,165,296	3,589,034	See Page 27.
	Millwork	22	786	-----	325	-----	146	13	1,270	2,470,841	.69%	1,251,050	1,219,791	See Page 28.
	Miscellaneous	22	956	35	330	-----	278	16	1,615	5,388,300	1.53%	753,920	4,634,380	See Page 28.
11	PAPER AND PRINTING:													
	Boxes and Bags	20	265	601	66	191	59	26	1,208	1,935,930	.55%	981,810	954,120	See Page 29.
	Printing and Publishing	204	2,908	420	500	262	637	170	4,897	8,763,817	2.48%	5,208,463	3,555,354	See Page 30.
	Printers' Supplies	17	102	-----	30	1	75	17	225	434,288	.12%	283,489	150,799	See Page 31.
	Paper and Stationery	5	54	19	40	16	21	7	157	232,695	.06%	76,928	155,767	See Page 32.
12	TEXTILES:													
	Awnings, Tents and Sails	9	36	23	7	2	20	5	93	203,500	.06%	137,363	66,137	See Page 32.
	Cotton and Burlap Bags	4	8	27	72	72	19	5	203	1,621,769	.46%	622,634	999,135	See Page 33.
	Carpets and Rugs	2	37	2	-----	2	3	-----	44	63,000	.02%	20,000	43,000	See Page 33.
	Cottons and Prints	5	1,060	2,280	150	320	33	13	3,856	5,890,000	1.67%	372,700	5,517,300	See Page 33.
	Clothing—Men and Boys	82	7,447	5,073	424	208	1,467	372	14,991	30,091,441	8.52%	1,796,695	28,294,746	See Page 34.
	Men's Furnishings	53	967	7,145	118	834	397	327	9,788	14,259,068	4.04%	1,135,273	13,123,795	See Page 35.
	Hats and Caps—Except Straw	12	163	135	6	-----	33	2	339	480,232	.14%	103,250	376,982	See Page 37.
	Ladies' Apparel	55	1,130	1,508	138	167	379	128	3,450	7,415,884	2.10%	1,334,859	6,081,025	See Page 38.
	Miscellaneous	8	54	558	27	50	60	63	812	576,235	.16%	240,577	335,658	See Page 39.
13	TOBACCO	208	917	2,575	250	263	208	54	4,267	10,585,048	2.99%	3,192,261	7,392,787	See Page 40.
14	TOOLS AND HARDWARE:													
	Builders' Hardware	7	74	-----	96	-----	18	-----	188	304,500	.09%	79,500	225,000	See Page 41.
	Miscellaneous	7	33	16	57	-----	27	5	138	567,632	.16%	68,543	499,089	See Page 41.
15	VEHICLES:													
	Horse Drawn	36	382	-----	66	-----	60	2	510	651,200	.18%	584,750	66,450	See Page 42.
	Motor and Vehicle Parts	12	130	-----	24	-----	22	5	181	479,162	.14%	242,587	236,575	See Page 42.
16	MISCELLANEOUS:													
	Brass and Bronze Products	19	406	32	78	11	65	5	597	872,800	.25%	284,110	588,690	See Page 43.
	Brooms and Brushes	18	257	65	154	29	60	14	579	776,055	.23%	215,500	560,555	See Page 43.
	Tin and Sheet Iron Products	61	1,693	1,184	1,605	1,263	585	80	6,410	24,858,425	7.03%	3,426,678	21,431,747	See Page 44.
	Flags, Banners and Regalia	6	50	29	2	-----	25	14	120	141,525	.04%	51,250	90,275	See Page 45.
	Fur Goods	15	31	2	-----	-----	14	-----	47	240,000	.07%	167,500	72,500	See Page 45.
	Ice and Cream Products	42	263	-----	669	-----	234	20	1,186	2,433,200	.69%	2,138,510	294,690	See Page 46.
	Matresses and Spring Beds	15	402	83	255	20	37	7	804	2,877,000	.81%	922,600	1,954,400	See Page 46.
	Millinery and Lace Goods	9	46	284	5	42	51	10	438	426,127	.12%	112,166	313,961	See Page 47.
	Shipbuilding	17	2,081	-----	511	-----	153	2	2,747	6,530,931	1.85%	409,431	6,121,500	See Page 48.
	Stone and Monument Work	54	520	-----	304	9	66	14	913	1,896,422	.54%	1,133,136	763,286	See Page 48.
	Umbrellas and Canes	9	162	444	26	71	119	73	895	2,274,500	.64%	130,800	2,143,700	See Page 49.
	Straw Hats	6	402	1,049	142	212	134	31	1,970	4,991,238	1.41%	391,313	4,599,925	See Page 49.
	Miscellaneous	148	1,415	80	703	253	244	64	2,759	64,065,208	18.13%	896,586	63,168,622	See Page 50.
	Grand Total	2,228	45,096	26,433	22,557	8,601	10,677	2,403	115,767	$353,319,086	100.00%	$73,980,084	$279,339,002	

[illegible]

VALUE AND DISPOSITION OF MERCHANDISE JOBBED

BALTIMORE METROPOLITAN DISTRICT—YEAR 1913

REFERENCE No.	CLASSIFICATION OF COMMODITY	NUMBER OF JOBBERS		VALUE AND DISPOSITION OF WARES				Purchased from Baltimore Manufacturers.	REMARKS
		Jobbing Exclusively	In Conjunction With Other Wares	Total Sales	Per Cent. of Grand Total	Sold Locally	Shipments	In Per Cent.	
1	AGRICULTURAL IMPLEMENTS	12	2	$7,486,188	3.13%	$384,510	$7,101,678	------	Includes Seeds, see Page 3.
2	BREWING AND DISTILLING:								
	Malt Liquors	8	1	751,868	.31%	625,104	126,764	------	See Page 3.
	Spirituous Liquors	62	---	25,785,658	10.78%	10,328,931	15,456,727	4.11%	See Page 4.
3	CEMENT, CLAY AND PRODUCTS:								
	Builders' Materials	14	---	2,766,509	1.16%	2,240,357	526,152	2.18%	See Page 5.
	Cement and Brick	2	14	3,070,118	1.28%	2,460,192	609,926	2.44%	
	Crockery and Pottery	---	7	1,210,212	.51%	232,513	977,699	9.50%	
	Roofing Materials	13	2	801,367	.34%	526,102	275,265	------	
4	CHEMICALS, OILS, ACIDS, ETC.:								
	Acids, Fertilizer, etc.	4	3	2,611,486	1.09%	321,814	2,289,672	28.16%	See Page 7.
	Paints and Varnishes	3	2	395,114	.17%	272,148	122,966	6.08%	See Page 8.
	Soaps and Perfumery	4	7	680,408	.28%	418,289	262,119	17.06%	
	Chemicals and Oil	6	2	4,546,322	1.90%	2,255,831	2,290,491	13.12%	See Page 10.
5	DRUGS AND PREPARATIONS	8	3	3,338,762	1.40%	1,272,082	2,066,680	9.48%	See Page 10.
6	FOOD PRODUCTS:								
	Bakery Products and Flour	10	---	2,781,412	1.16%	862,237	1,919,175	7.44%	Principally Flour.
	Cereals, Teas and Coffee	10	4	15,382,824	6.43%	2,741,317	12,641,507	1.49%	Practically all Coffee and Tea.
	Preserved and Canned Foods	44	4	15,883,269	6.64%	6,346,560	9,536,709	4.44%	Grocery Jobbers.
	Slaughtering and Meat Packing	7	---	9,432,608	3.95%	8,953,126	479,482	4.08%	Includes Provisions.
	Candy and Confectionery	12	2	2,727,226	1.14%	522,110	2,205,116	30.16%	
	Miscellaneous	9	11	1,870,304	.78%	420,783	1,449,521	8.23%	
7	FOUNDRY AND MACHINE SHOP PRODUCTS:								
	Bridge and Building Construction	10	2	2,345,128	.98%	232,149	2,112,979	------	See Page 16.
	Electrical Equipment	9	2	1,269,682	.53%	658,176	611,506	1.13%	
	Machinery	14	5	3,014,253	1.26%	1,497,040	1,517,213	2.11%	See Page 16.
	Miscellaneous	11	4	895,799	.37%	269,825	625,974	.56%	
8	GLASS AND PRODUCTS:								
	Bottles and Glassware	2	7	1,055,241	.44%	157,196	898,045	6.16%	
	Mirrors, Plate and Window Glass	3	2	1,425,623	.60%	350,982	1,074,641	------	
9	JEWELRY AND SILVERWARE:								
	Jewelry	6	3	529,000	.22%	92,250	436,750	------	
	Silverware	2	1	65,102	.03%	4,869	60,233	4.18%	
	Miscellaneous	1	4	138,000	.06%	30,250	107,750	.13%	
10	LEATHER AND MANUFACTURES:								
	Boots and Shoes	17	1	9,671,122	4.05%	1,993,964	7,677,158	4.32%	
	Harness and Saddlery	2	3	1,068,750	.45%	159,252	909,498	------	
	Leather—Raw and Tanned	17	---	3,908,686	1.63%	398,200	3,510,486	------	
	Miscellaneous	2	3	225,892	.09%	14,680	211,212	------	Bags and Trunks.
11	LUMBER AND MANUFACTURES:								
	Baskets, Willow Ware, etc.	2	2	315,613	.13%	85,201	230,412	------	See Page 26.
	Furniture	4	5	3,733,434	1.56%	622,311	3,111,123	3.24%	Principally Chairs, see Page 27.
	Millwork	5	11	4,845,822	2.03%	2,627,386	2,218,436	------	
	Miscellaneous	18	6	9,319,369	3.90%	7,104,000	2,215,369	------	Principally Lumber.
12	PAPER AND PRINTING:								
	Boxes and Bags	7	2	1,392,500	.58%	1,096,350	296,150	20.38%	See Page 30.
	Printers' Supplies	3	1	359,000	.15%	233,350	125,650	.14%	
	Paper and Stationery	14	3	3,997,269	1.67%	2,003,986	1,993,283	------	
13	TEXTILES:								
	Carpets and Rugs	2	3	1,741,693	.73%	397,923	1,343,770	------	
	Cottons and Prints	3	11	21,527,942	9.01%	1,534,904	19,993,038	.15%	Dry Goods Jobbers.
	Clothing—Men and Boys	40	2	3,650,882	1.53%	318,208	3,332,674	6.29%	
	Gents' Furnishings	2	16	4,294,104	1.80%	488,752	3,805,352	6.47%	
	Hats and Caps—Except Straw	1	7	1,005,017	.42%	99,881	905,136	10.14%	
	Hosiery, Knit Goods and Notions	5	13	5,597,112	2.34%	1,116,444	4,480,668	------	
	Ladies' Apparel	8	3	2,692,125	1.13%	326,108	2,366,017	22.41%	
	Silk and Manufactures	2	2	915,000	.38%	238,750	676,250	------	
	Miscellaneous	14	10	4,090,247	1.71%	1,137,643	2,952,604	------	
14	TOBACCO	8	3	6,605,633	2.76%	2,252,141	4,353,492	11.73%	
15	TOOLS AND HARDWARE:								
	Builders' Hardware	6	2	924,191	.39%	350,333	573,858	7.00%	
	Miscellaneous	9	5	4,355,110	1.82%	928,265	3,426,845	.32%	
16	VEHICLES:								
	Horse Drawn	---	3	51,523	.02%	46,411	5,112	------	
	Wagon and Motor Parts	2	5	524,191	.22%	175,833	348,358	1.53%	
17	MISCELLANEOUS:								
	Brass and Bronze Products	---	5	436,182	.18%	196,421	239,761	4.10%	
	Brooms and Brushes	---	8	359,166	.15%	118,946	240,220	2.08%	
	Copper, Tin, and Sheet Iron Products	9	5	1,623,867	.68%	403,246	1,220,621	7.75%	
	Dental and Surgical Goods	8	3	375,000	.16%	210,000	165,000	------	
	Furs and Skins	5	2	1,680,190	.70%	111,040	1,569,150	------	Includes Hides.
	Mattresses, Brass and Spring Beds	4	1	810,209	.34%	325,861	484,348	1.16%	
	Millinery and Lace Goods	13	3	9,151,811	3.83%	1,202,750	7,949,061	.84%	
	Plumbers' Supplies	9	1	3,090,000	1.29%	1,185,000	1,905,000	22.11%	
	Rubber Goods	4	6	3,031,719	1.27%	370,517	2,661,202	------	
	Umbrellas and Canes	---	9	405,000	.17%	40,000	365,000	.05%	
	Straw Hats	---	7	764,208	.32%	137,250	626,958	6.19%	
	Wall Paper	5	3	625,878	.26%	292,046	333,832	------	
	Miscellaneous	18	11	7,662,720	3.21%	2,693,673	4,969,047	.29%	
	Grand Total	554		$239,087,660	100.00%	$77,513,769	$161,573,891	4.10%	

MANUFACTURING AND JOBBING BUSINESS

AGRICULTURAL IMPLEMENTS AND SEEDS

Agricultural Implements

No local establishments are reported as engaged in the manufacture of machinery or implements designed for use in agriculture. Collectively, there are eight jobbers and branch houses of manufacturers dealing in agricultural implements of every description, whose combined sales for 1913 totalled $3,361,193.

In this class of wares Baltimore has for the past forty years been considered an advantageous jobbing centre for the South. Very little competition is encountered in the territory served, although Richmond, Va., and Chattanooga, Tenn., manufacture on a limited scale a special line of agricultural implements.

Seeds

In grass and field seeds Baltimore is the acknowledged largest jobbing centre on the Atlantic Seaboard. Garden and flower seeds are also extensively jobbed. While the trend of the business is South, local dealers canvass the country generally.

Competition in grass and field seeds is reported from Chicago, Toledo and Cincinnati, and in garden and flower seeds from Philadelphia and New York.

Six jobbers in the trade show aggregate sales for 1913 of $4,124,995.

BREWING AND DISTILLING

Malt Liquors

The amount of lager beer produced in Baltimore is practically sufficient to take care of the local consumption. Out-of-town brewers have, however, been able to command 10 per cent. of the trade, which has been offset by home manufacturers' shipments to near-by points. The increase in local consumption has been at the rate of 5 per cent. per year, being relative to the increase in population.

Of the ingredients which enter largely into the manufacture of the product, hops are procured from the Pacific Coast, New York State, and imported; malt principally from Chicago and Milwaukee; and rice from India. 25 per cent. of the corn grits used is purchased locally, the remainder being secured from Indianapolis, Ind., and vicinity.

MANUFACTURING AND JOBBING BUSINESS

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Articles used in the trade, such as kegs, barrels, copper and other tubing, tanks and boilers, are purchased from local manufacturers; 20 per cent. of the bottles used are procured from local establishments, the brewers claiming that home manufacturers cannot successfully compete with the Middle West in the production of beer bottles.

The amount of beer produced per capita in Baltimore is not as great as in most other large cities, due to the fact that the territory adjacent to Baltimore is not so densely populated.

Spirituous Liquors

Establishments embraced in this classification are engaged in distilling whiskey, brandy and gin. The value of products shown in Statement No. 1 is greatly affected by the Internal Revenue tax. This fact, coupled with diversified methods peculiar to the industry employed in the disposition of the product, and bonding with the resultant loss through evaporation make it impossible to compile absolutely accurate and reliable statistics. So far as would admit of verification, the figures noted are exclusive of the Internal Revenue tax.

Maryland manufactured approximately 4,750,000 gallons of whiskey in 1913, 85 per cent. of which was produced within the Baltimore Metropolitan District. With tax, storage charges, and handling costs added, and after making due allowance for evaporation, the value of this product four years hence will approximate $8,350,000.

From this trade local coppersmiths secure practically all the work in their line. Cooperage is purchased largely in Baltimore, although quantities are contracted for yearly with firms in Cincinnati, Ohio and Peoria, Ill. Malted grain is shipped in from Wisconsin and Michigan.

Distilled and vinous liquors are jobbed on an extensive scale. According to official United States Internal Revenue records, sixty-two firms were reported as doing a wholesale liquor business in 1913, fifty-two of them being rectifiers. The value of products shown as disposed of through wholesale dealers is inclusive of the Internal Revenue tax and of one of the essentials entering primarily into the rectifying, compounding and blending of whiskey.

Maryland, with Baltimore as the logical distributing point, enjoys an international reputation on the superior quality of her whiskies, a reputation which the manufacturers and jobbers are exerting every effort to uphold.

CEMENT, CLAY AND PRODUCTS

Builders Materials

Of the numerous articles handled by builders' supply companies, very few are made in Baltimore. The building supply business is divided up among a small number of very large firms and a large number of smaller ones, under three general classifications. First in importance is the line which embraces such

articles as cement, plaster, brick, lining and sheathing paper, terra cotta and other clay pipe and stone trimmings; second come those concerns which handle sash and blinds, doors and door frames (See Lumber and Manufactures, Millwork); and last, those which handle an assortment of builders' hardware and iron work (See Tools and Hardware, Builders' Hardware).

In the first group there is one local concern which makes a very high grade of ornamental terra cotta, supplying the bulk of the local demand and selling the remainder of its product throughout the country generally. Lime used for both building and fertilizer comes principally from Western Maryland. At the present time there is located in Baltimore one concern engaged in the manufacture of lime which secures its raw material from an accumulation of matter used years ago by the local gas company. This supply is about exhausted and the company will shortly go out of business. A large percentage of the fireproof building blocks comes from Mt. Savage, Md., and the remainder from New Jersey. Plaster is shipped in from Staten Island, although purchases are reported from Buffalo and Chester, Pa. Cement is secured principally from Lehigh Valley, Pa., with a portion from Western Maryland. Mortar colors are made locally and furnish the bulk of the consumption. Building papers are brought here from York, Pa. Terra cotta pipe, fire clay pipe and flue linings are purchased in Akron, Ohio territory, metal lath from factories at Youngstown, Ohio, and roofing of such kinds as asphalt, slag, rubber, and tarred comes from York, Pa. Shingle stains and waterproof and weatherproof paints are secured largely from Boston and near Buffalo.

CONCRETE—There is one concern making a patented concrete pile, another making a tile of concrete, and a third manufactures concrete beams with steel reinforcement. One firm casts concrete front and side walls for buildings in steel forms or molds. One establishment reports making statuary and urns of concrete. Eleven firms are engaged in making concrete blocks for building purposes.

BRICK

The making of building brick is almost essentially a local or neighborhood industry, as the weight of the product and the close margin at which it is sold make it virtually impossible for manufacturers to pay freight on it and successfully compete for business except within a very narrow radius of their yards. With colored face brick and paving blocks this does not hold good, as sufficient demand may be established for a particular make of either to justify expansion.

Almost every city in this vicinity produces nearly sufficient brick to supply the local demand and Baltimore is no exception to this rule, 95 per cent. of the local consumption of common building brick being taken care of by the yards in and around the city. Only about 25 per cent. of the colored face brick used in Baltimore is manufactured here, consisting entirely of red brick, which is among the cheapest colored front brick made. The making of face brick in other colors

or artificially colored has been attempted here on numerous occasions by different concerns, only to be abandoned, as the profits derived did not justify its continuance, although an adequate supply of suitable clay is available.

Of sidewalk brick, the use of which is steadily declining, Baltimore yards make all that is consumed in the city. An average of 25 per cent. of the street paving brick used by the local municipality and by private parties is secured from one manufacturer of this class of brick.

Ordinarily the supply of labor, which is chiefly unskilled, is ample, but recently the large amount of paving being done by the city has not only affected the wage scale, but also materially curtailed the supply.

Crockery and Pottery

The manufacture of crockery and pottery, while never a really important industry in Baltimore, has dwindled to almost nothing. The business reached its height about 1888, when there were four concerns making whiteware, an equal number stoneware, and two making roofing tile. Now there is but one of each engaged in the first two pursuits mentioned and none in the last named industry. There is no particular reason assigned for the dwindling of the industry, except perhaps concentration of the business in certain pottery centres, such as Trenton, N. J. It is claimed that there are ample opportunities here for the establishment of crockery and pottery manufactories, if experienced men with adequate capital would enter the field. Suitable clay in large quantities is available, labor is obtainable at a reasonable figure, and distribution facilities are all that could be desired.

Of the porcelain ware made here at this time about half is sold in Baltimore, the remainder principally in the South. Practically all flower pots and clay pipes manufactured are sold locally.

Paving and Roofing Materials

There are five concerns engaged in the making and laying of asphalt paving. The local consumption takes about 85 per cent. of the production, and practically all of the remaining 15 per cent. is used on Maryland State roads. Two of the manufacturers are in reality branches of outside concerns, although they maintain plants here temporarily for the production of asphalt paving materials, and three are permanently located.

The materials other than asphalt used in this class of paving are coarsely crushed stone, secured locally; trap rock and granite crushed to varying degrees of fineness, obtained from Maryland quarries; sand and gravel, secured locally; and the oil used for fluxing, furnished by local concerns. 60 per cent. of the crude asphalt is purchased locally, the remainder being shipped in from California, Texas, Bermuda and Mexico.

One concern makes asphalt blocks, used largely in street paving and repair work, and the others turn out their product in what is known as sheet form.

The local patronage of the companies comes almost entirely from the municipality, and as the paving of streets in Baltimore is at a high level, chiefly asphalt being used for the purpose, the business is in a thriving condition and bids fair to remain so for at least five years to come.

Of other varieties of paving material, one concern turns out a considerable amount of granite or Belgian block, the local consumption being fairly large.

ROOFING—At the present time there is no concern in Baltimore manufacturing slag roofing, although the product in its entirety was manufactured by one firm for a number of years, but was abandoned when the coal tar by-product of a local concern was no longer available.

There are twelve large concerns in Baltimore engaged in coating and applying tar, slag, and asphalt roofing and applying asbestos roofing, 70 per cent. of their sales being in Baltimore and the remaining 30 per cent. within a very narrow radius of the city. The trade has shown an increase of 200 per cent. in the past ten years, the greatest gain being noted since 1909. The business done by the twelve firms mentioned in roofing materials last year amounted to $511,288.

CHEMICALS, OILS, ACIDS, ETC.

ACIDS, FERTILIZERS, ETC.

There are four concerns in Baltimore engaged in the manufacture of sulphuric acid, which is used largely by the fertilizer factories in the treatment of phosphate rock. There is a large demand locally for sulphate of ammonia from the fertilizer factories, but at present there is only one concern manufacturing this product and that on a very limited scale.

Baltimore is the largest fertilizer manufacturing centre in the world. This industry is growing in importance from year to year, due largely to the educational campaign which is being waged by the fertilizer companies in conjunction with the Department of Agriculture and various state agricultural colleges. This city enjoys certain advantages from a fertilizer manufacturing standpoint which, in the opinion of some of the best informed men in the business, make it impregnable as a centre in this particular field. These advantages may be summarized as follows: The enormous prestige which it has long enjoyed; cheap coal; attractive rail and water transportation facilities, unequalled for distribution north, south, east and west; favorable labor conditions; and low freight rates on the most important ingredients by water from Chili and Cuba. The possibilities for expansion are almost limitless, as farmers are fast beginning to realize that through the proper use of fertilizer one acre of land can be made to produce as much as two acres under natural conditions.

The trend of increase in consumption is toward the South, because of the character of agricultural products raised there and the ever-increasing acreage devoted to intensive farming and truck raising. About 60 per cent. of the prod-

uct is finding a market in that section, although the demand from the West is increasing rapidly and is second in importance in distribution.

All the potash used in the manufacture of fertilizer comes from Germany, nitrate of soda from the guano beds of Chili, phosphate rock principally from Florida. Ammoniates are secured from nearly all sections of the United States to the extent of 75 per cent., the remaining 25 per cent. being imported from Scotland. Local manufacturers are required to secure certain kinds of tankage from other cities which, as is done elsewhere, could as well be derived from the garbage here. This tankage is a prime requisite in the manufacture of special fertilizers.

Practically all gunny sacks or bags, which of late years have almost entirely supplanted barrels as containers of fertilizer products, are made by local firms.

Jobbers connected with the fertilizer business derive their principal income from handling the various raw materials which go to make up the finished product, rather than from buying and selling fertilizer itself. The demand for fertilizer has increased throughout the country at the annual rate of 10 per cent. for the past five years.

Paints, Varnishes and Dyes

Due to overlapping in the products of establishments engaged in the manufacture of paints and varnishes, these materials have been included in one classification, which also embraces an establishment manufacturing dyes.

Ready mixed paints are manufactured on a fairly large scale locally, but have not enjoyed a particularly broad market, as our manufacturers have done little to advertise widely their brands. The trend of the trade is South, where Baltimore-made paints have long possessed an excellent reputation. Labor is plentiful and can be had at a reasonable wage.

There are no exclusive jobbers of paints in this city, although the wholesale drug houses and hardware dealers in some instances handle considerable quantities of paint on a jobbing basis, the greatest part of which comes from out-of-town manufacturers and is of a cheaper grade than that manufactured locally.

Eight manufacturers of other cities have established agencies through local retail paint dealers and the aggregate volume of their business has been ascertained to amount to $141,550.

There are three jobbers representing outside manufacturers of lead, whose sales for 1913 amounted to 1,600 tons, valued at $225,000.

About 80 per cent. of the ready mixed paint handled by local retailers is purchased from the manufacturers, but contractors and other large users mix their own paints, purchasing their materials chiefly from the local representatives of outside manufacturers. The character of the business is such that it does not lend itself to being handled on a jobbing or commission basis, and manufacturers confine their efforts largely to selling the retail trade. This condition exists all over the country, with the possible exception of several nationally advertised brands.

Soaps and Perfumery

Fifteen years ago Baltimore ranked fourth among the cities of the country in the production of soap, at which time it practically monopolized the business in the Southern states, the aggregate value of the product approximating $4,000,000 per annum, with from thirteen to fifteen concerns engaged in its manufacture, but this business is no longer an item of importance among Baltimore's enterprises. A number of factors have contributed to the curtailment, among which the most important are the following: The extraction of cotton seed oil and its utilization in the manufacture of soap, stimulating the establishment of factories throughout the South; utilization of by-products by large western packing houses in the manufacture of soap; and the stupendous advertising campaigns inaugurated by many of the large soap manufacturers. However, it is the concensus of opinion of practical soap men that the business could again be enormously developed here, for this city possesses as many advantages favorable to the industry as Buffalo, Cincinnati or New York, and furthermore, the distribution facilities are superior to those enjoyed by any inland soap manufacturing centre.

Forty per cent. of the soap produced in Baltimore is sold to jobbers, as the character of the business is such as to encourage the handling of the product in this manner.

A considerable portion of the raw material entering into the composition of soap is the by-product, such as fats, greases and oils, of slaughtering and meat packing establishments, and Baltimore has quite a number of such establishments which at the present time are shipping most of their by-products out of the city, to be made into soap, ointments, and the like. In addition to the materials named above, cocoanut oil is also a very important ingredient, especially of white soap, and this oil can be brought from the tropics to this city cheaper than to almost any other point. Other materials entering into the composition of soap are caustic soda and soda ash, neither of which is manufactured here. These raw materials come from Syracuse, N. Y., Wyandotte, Mich., and Saltville, Va., and also from England.

New York is the acknowledged largest soap grease market in the country, and to that city Chicago, St. Louis, and Kansas City, as well as other packing and slaughtering centres, send to a large extent their surplus by-products. Most of the packers are in the soap business, though none of them can as yet find a market for a sufficient quantity of soap to enable them to utilize all of their by-products in its manufacture.

PERFUMERY AND TOILET ARTICLES—The manufacture of perfumery and toilet articles has never been developed locally on an extensive scale. There are at present three manufacturers of perfumery and talcum powder, and two establishments specializing in toilet articles. There are a number of other concerns manufacturing toilet articles as a side line, but since their product of chief value as reported is "Drugs," they are accordingly so classified.

Miscellaneous Chemicals and Oil

There are two concerns in Baltimore producing heavy chemicals, which are used largely in making dyes and by the textile industries generally.

Inherent difficulties encountered in securing thoroughly accurate and reliable information on the oil industry have made it obligatory to include as manufacturers, establishments which purchase partly refined petroleum products and compound them with vegetable, animal, and mineral oils or other substances, in order to produce a special composition, or lubricating product. There is only one establishment in the Baltimore Industrial District engaged primarily in the refining of crude petroleum by distillation. The number of establishments reported as manufacturing lubricating oil is twelve, several of which purchase their materials of jobbers.

There is one concern reporting as engaged in the manufacture of shoe blacking.

Refined oil, gasoline and petroleum products are being extensively jobbed, six independent concerns maintaining tank wagon delivery service to take care of the local demand.

DRUGS AND PREPARATIONS

Baltimore ranks fourth among the cities of the country in the production of drugs, and standard and proprietary medicinal preparations. There has been some little expansion in the business during the past four years, but the increase would probably have been considerably greater had not the passage of the Pure Food and Drugs Act required the printing of ingredients on the labels of all proprietary preparations, which has apparently somewhat curtailed their sale.

Forty per cent. of the local consumption of these products is supplied by the manufacturers, which is equivalent to 15 per cent. of their total output, one-third going to jobbers and two-thirds to retailers. Approximately 40 per cent. of the output is sold in the Southern states, and the remainder is evenly distributed throughout the country.

Fifty per cent. of the containers used, such as bottles, pill and other boxes, are procured of home manufacturers. Of raw materials, about 10 per cent. are purchased of local manufacturers, including phosphate of soda, sal soda, and sundry acids.

In the jobbing of drugs and preparations, Baltimore also ranks high among the cities of the United States, having eight concerns engaged in this business. The jobbing of drugs has doubled in the past twelve years and has shown an average annual increase of 8 per cent. in the last four years. The distribution has been about as follows: 25 per cent. local, 50 per cent. in the South, and 25 per cent. scattered over adjoining states.

FOOD PRODUCTS

Bakery Products

The production of baker's bread, cake, and pies has increased 60 per cent. during the past ten years, due partially to increase of population but mainly to the fact that the factory-made product is gradually supplanting home-made articles.

Seventy per cent. of the flour used, or practically all of that required in the making of bread, comes from the West, and the remaining 30 per cent. utilized in the manufacture of cakes, pastry and pies is purchased from local millers.

About five years ago there was inaugurated the shipment of bread, pies, and cake to points outside of Baltimore and now 5 per cent. of the total product is sold within a radius of 100 miles of this city, which distance appears to be the mileage limit within which the business can be successfully carried on. The labor situation is satisfactory and there are no serious handicaps.

The manufacture of factory-made crackers and biscuits, both plain and fancy, has shown an increase of 35 per cent. during the past four years. Nearly 51 per cent. of the local consumption of these foodstuffs is supplied by Baltimore manufacturers, which is equivalent to 34 per cent. of their total output. About 85 per cent. of the flour used in the making of these products is secured locally and from near-by points, the remainder being procured from the West. None of the local product is jobbed here, but the bulk of that which is shipped goes to jobbers. The trend of the outside demand is to the South, but a fair amount of the output is sold all over the country east of the Mississippi River. Of lard and compounds used for shortening by the biscuit, cake and pie manufacturers, 20 per cent. is secured from local manufacturers and 80 per cent. from western packing houses. Flavoring extracts for both branches of the industry are largely purchased in this city from manufacturers, but dried fruits, with the exception of apples which are secured principally in New York State, are shipped in from California.

Flour

The local milling of wheat flour has fallen off about 50 per cent. since 1880, when the business reached its zenith, but has about held its own at the reduced output since 1899. This slump in production is not peculiar to Baltimore, but is a condition which exists at all centres in the country with the exception of the great flour producing sections of the Middle West, of which Minneapolis is the headquarters. With the enormous development of wheat raising in the West came the establishment of many large mills near the source of supply of the raw material, and the manufacture of flour decreased correspondingly in all other sections.

Of the flour made here 25 per cent. is sold locally, 40 per cent. is exported, and 35 per cent. finds its principal market in the South. As to source

of supply for raw materials, 85 per cent. is winter wheat from Maryland and adjoining states and 15 per cent. spring wheat from the West. Very little flour is sold to jobbers here or elsewhere, the bulk of it going direct to large consumers and to retailers. The western flour is nationally advertised to an extent which the local manufacturers would not be warranted even in approximating. The former product is made nearer to the geographical centre of the country, and therefore logically finds a nation-wide market.

Cereals and Spices

There are three concerns engaged in the grinding of spices from raw materials imported from India, East Indies, China, Japan, other sections of the Far East, and Africa. Everything in the spice line is therefore made here.

About 20 per cent. of the local consumption is supplied by local concerns, the remainder being shipped in principally from New York. The Baltimore sales are equivalent to about 10 per cent. of the local output. Local sales are chiefly to jobbers, with the exception of those of one establishment which caters exclusively to the retail trade. The bulk of the patronage of the local spice mills comes from the South and Southwest, but large quantities go to New England, New York and Philadelphia. Two of the mills also manufacture a complete line of fruit and other extracts, the latter from imported essential oils. One concern reports as being engaged chiefly in the manufacture of vanilla extract in bulk.

Seven firms import tea from all tea producing centres, blend it and sell it under their own brands in packages and in bulk.

CEREALS—Practically the only breakfast food made locally is hominy, but this is manufactured on a considerable scale. The raw product is corn, which is shipped in from the Middle West. Hominy manufacturers also produce corn grits, corn meal, and some little flour. The hominy mills supply 75 per cent. of the local consumption of grits, and 50 per cent. of the home consumption of the other products which they make, these amounts being equivalent to 15 per cent. of the total production of the four items mentioned above. The remainder is shipped South and Southeast, a small quantity being exported. These mills also make horse and cattle feed, in the composition of which oats as well as corn largely enters. Altogether there are eight concerns making this feed, securing about 50 per cent. of the local patronage, exclusive of that enjoyed by a number of small feed stores, which mix their own horse and cattle feed.

Preserved and Canned Foods

No market packs a more general assortment of canned fruits and vegetables than Baltimore. It is known in the trade as the "Mother of the Canned Goods Industry." This city was the first to use machinery in connection with the business and was the initial point at which commercial canning of food products was successfully developed.

The packing of oysters was begun here in 1820, and has experienced an almost continuous growth in quantity of output since that time. The next venture of the local packers was the canning of tomatoes, followed closely by the same treatment of practically all other vegetables and fruits. This was soon after the beginning of the Civil War, which was responsible for the initial demand for canned goods in this country. Baltimore canned goods are exported to all parts of the civilized world. Considering the vast volume of the output, they are not extensively jobbed here.

Tomatoes are more extensively packed here than any other one item, and last year the packers of this city turned out about two-fifths of the tomatoes canned in the country. Oysters, including raw and cove, come next in importance. All kinds of berries are packed here in large quantities, with strawberries leading the list, and so are all other fruits and vegetables grown in this climate, with the addition of pineapples. Practically all the pineapples packed in this country were put up in Baltimore until about ten years ago, at which time the industry was introduced in the native islands, where by far the largest part of the canning for consumption in this country is now done. Baltimore has also lost out as the centre of the pea-canning industry, though some of the finest canned peas in the country are still put up here. From occupying the first place in the pea-packing business eight years ago, Baltimore has dropped to sixth in rank.

The growth locally of the packing business during recent years has been enormous, the value of the output having nearly doubled in the past four years, while there has been a proportionate increase in the number of employees during the same period.

The putting up of jellies and preserved fruits has nearly kept pace with the general canning business, some packers conducting it as a side line and others making it a specialty. This business received a great impetus locally with the passage of the Pure Food and Drugs Act in 1906, as the Baltimore packers had never attempted competition with cheap, adulterated articles.

The local Canned Goods Exchange is an unusually strong trade organization and the packers work together with a more unselfish spirit than is found in many other trades.

Slaughtering and Meat Packing

Under this heading are given statistics of wholesale slaughtering and meat-packing establishments, public abattoirs, butchering establishments and those making a specialty of manufacturing sausage.

Slaughtering is fast becoming the leading industry of Baltimore. In addition to a number of privately owned plants, there are at the present time four beef and seven pork slaughtering houses under Government supervision. Aside from the regularly established packing houses, thirty-eight butchers kill

their cattle, sheep and hogs through public abattoirs or in their own slaughtering houses.

Although this industry is showing a steady and healthy development, it is laboring under serious handicaps. Foremost among these is the inferiority of its advantages compared with those enjoyed by western packers. Those concerns have such advantages as, first, proximity to the source of supply; second, the utilization of their offals for manufacturing a number of by-products such as tallow, oleo oil, stearin, glue, gelatine, soap, and fertilizer materials; and third, the addition of private refrigerator car service, all of which tend to offset in a measure the difference in freight of cattle on the hoof and the dressed product, and permit them to enter eastern markets and practically monopolize the business. Another handicap to the extensive development of this industry in Baltimore is caused by certain local restrictions as to the sites for plants. New York and Philadelphia are making decided concessions in this respect, in that they permit the erection of plants within the city limits, proper control being exercised in respect to sanitation. It is stated authoritatively that if this industry is given the same privileges extended other pursuits in this city, it will show even larger gains within the next decade.

There are seven branches of packing establishments in Baltimore and their sales for 1913 aggregated $9,432,608, this amount being equivalent to slightly more than half of the local business.

An educational campaign waged among the local butchers, and their banding together in an organization for the sale of their offals, have had a tendency to retard the inroads made by outside packers, so that the local establishments are now practically holding their own with conditions favorable for securing a larger share of the business offering.

Candy and Confectionery

Baltimore ranks fifth among the cities of the country in the quantity and value of the candy manufactured. This business is not showing any particular growth in production of the cheaper grades, but the average quality has improved within the past four years, and the price obtained for the output has therefore increased during that period.

There are fifty-six concerns engaged in the business, twenty-eight of which are of considerable size. Of the remaining number, six are jobbers who make a little of the hard candy which they sell, and twenty-two are retailers who usually manufacture on their premises a portion of their wares.

About 12 per cent. of the candy made here is sold locally to both jobbers and retailers, the remaining 88 per cent. being distributed as follows: Southern states, 25 per cent.; Middle West, 18 per cent.; New England and other states to the North, 15 per cent.; Northwest, 15 per cent.; Far West, 10 per cent.; export and scattered, 5 per cent. The retail trade is extensively catered to in Balti-

more only, 85 per cent. of the wares shipped being sold to jobbers. About 75 per cent. of the candy made here may be termed high grade, 15 per cent. is medium, and 10 per cent. low grade.

Of the ingredients which enter into the manufacture of candy, local concerns purchase all of their sugar from local brokers, cocoa from New York and Boston brokers, lemon and orange essential oils from abroad, other fruit flavors from New York jobbers, and corn syrup mostly from the Middle West. The candy manufacturers would be glad to purchase their fruit flavors locally if some one would manufacture and furnish the grade and quality desired.

Cardboard boxes, both plain and fancy, are purchased of local manufacturers to the extent of 95 per cent., and practically all wooden shipping cases are made in this city. Local printers and lithographers furnish about 50 per cent. of the plain and fancy wraps used in the trade, New York and Boston supplying the remainder.

Labor conditions are far from satisfactory. It is impossible, except in very dull seasons, to secure an adequate supply of experienced help.

MISCELLANEOUS

BAKING POWDER—About 20 per cent. of the local consumption is taken care of by home manufacturers, which is equivalent to 8 per cent. of the output of the four concerns engaged in the business. The remainder finds a market in the South. Of the amount sold locally 75 per cent. goes to jobbers and 25 per cent. to retailers.

Of the ingredients required, the starch, bicarbonate of soda, acids and chemicals come from the Middle West. The tin plate used in making the tops and bottoms of cardboard containers comes from Pittsburgh and the labels from Baltimore.

No gelatine is made here, but one concern makes a dessert powder with fruit flavors, of which gelatine is the principal ingredient, and also an ice cream powder of a similar nature. There is one importer of ground cassava root, procured from South America, and from this root tapioca is made. Six local concerns put up tapioca in packages under their respective brands. 80 per cent. of the local production is sold through jobbers and the remainder to retailers. Only 5 per cent. of the local production is sold in Baltimore, the remainder going to adjacent states and to the South.

One concern is reported as engaged in clarifying and packing olive oil, three as making macaroni, and three as manufacturing supplies used in the baking industry.

FOUNDRY AND MACHINE-SHOP PRODUCTS

Bridge and Structural Iron

With the exception of the manufacture on a limited scale of cast iron bases, columns, and scroll work, Baltimore makes nothing in structural iron and steel, from the raw material to the finished product. Structural iron and steel, however, is fabricated and put up by ten concerns. The beams, columns, channels, angle iron, tees, bars, scroll work and all other structural materials are purchased in the rough from manufacturers, principally in the Pittsburgh district, and are cut into lengths, riveted, shaped, and painted by local firms. These establishments furnish and do practically all of the erecting on about 90 per cent. of the local consumption of structural iron and steel, so far as the construction of buildings is concerned, but they supply nothing for bridge work except steel cores for concrete construction. The remaining 10 per cent. of structural iron and steel already fabricated is shipped in from various points.

The local business of these concerns is equivalent to about 40 per cent. of their total output, the remaining amount finding a market principally in the Southern states. Two of the finishing and erecting shops also job unfinished materials, and ten additional concerns are engaged exclusively in jobbing rough material, securing a market for 90 per cent. of their turn-over from the Southern states and 10 per cent. from local fabricators.

One of Pittsburgh's large steel and iron establishments maintains a branch in Baltimore where they fabricate structural material, exporting nearly all of the finished product.

Electrical Equipment

Local manufacturing of electrical equipment, excepting telephone and telegraph instruments, is confined chiefly to the assembling of finished parts and the construction of special apparatus to order. Five concerns are engaged in the industry, two manufacturing telephone and telegraph instruments and messenger coil boxes, one oil fuse boxes, and two medical and storage batteries.

The principal complaint of the manufacturers is that they cannot get many of the small articles which they need, such as screws, rivets and other hardware in Baltimore, local dealers carrying only staple articles whereas there is a big demand for specialties.

Machinery

The gross income of the local machine shops is derived as follows: 50 per cent. from the construction of standard or patented machines of limited variety, made principally for account of the owners of the patents; 25 per cent. from building special machinery on specifications; and the remainder from repair work.

In the number and value of patented and standard machines produced, used in the fruit, vegetable, and oyster-packing business, Baltimore leads other cities. In the construction of machinery for making tin cans Baltimore also ranks very

high. Its canning machinery has a world-wide reputation, for which the market is largely out of the city, due to new packing establishments springing up throughout the country.

Among the specific machines and articles which are built here and carried in stock by the machine shops are the following: very high grade planers; bolt cutting and drilling and boring machines; street lighting and other iron posts; machinery for joining together tin for roofing purposes; machinery for filling and corking bottles; devices for making ice cream cones; grain and cereal dryers; some special types of marine boilers and engines, but no other steam boilers or engines; gasoline engines; tobacco granulators and cutters; passenger and freight elevators; grain presses used by brewers; chain elevators or conveyors; heating boilers for heating systems; grinders and mixers for fertilizer plants; cookers, pressers, and dryers for fish fertilizer manufacturers; rotary blowers; nautical instruments; sanitary and ordinary pumps; broom-making machinery; gasometers; and sugar machinery.

Of the equipment and supplies used in machine shops, those engaged in the business are required to purchase, chiefly from Baltimore agencies of out-of-town concerns, lathes; medium grade planers; shapers; drill presses; power punches and shears; emory grinders; milling machines; perforators; key seaters; slotters; pipe cutting, threading and sawing machines; bending and straightening rolls; riveting machines; and pneumatic hammers and drills, as well as all hand tools.

There is room locally for the establishment of a steel plate mill, since the consumption is very large, principally in the making of boilers, stacks, tanks, etc., the last two articles in particular being made on an extensive scale. Most of the concerns engaged in the manufacture of metal cornice and roofing are prepared to build smoke stacks, sheet iron tanks, and in fact anything where sheet iron or steel is involved. There is in process of formation an organization which is expected to include practically all the sheet steel and galvanized iron concerns in this city.

The machine-shop business is in a healthy condition, but it does not show a particularly strong growing tendency. The labor situation is satisfactory at this time, a full supply of fairly competent mechanics being available.

Railway Cars and Construction

This classification covers shops making running or classified repairs to locomotives, railway and street cars, and those engaged in the manufacture of new equipment or parts thereof. The building of freight cars was discontinued about four years ago, and this industry in the main consists in the assembling of finished parts shipped in from the Pittsburgh district. There is one concern engaged in the manufacture of car wheels.

Miscellaneous

STOVES—There are seven concerns manufacturing coal ranges, other domestic coal consuming stoves, and hot air furnaces. Three of them also make gas ranges and one concern manufactures gas ranges exclusively. Two of the seven companies cater to hotel trade particularly, building extra large and heavy combined gas and coal ranges, and the equipment used in hotel and restaurant kitchens. About 95 per cent. of the local consumption of coal ranges, other than coal stoves and hot air furnaces, is supplied by the Baltimore manufacturers, which is equal to 25 per cent. of their combined output; 65 per cent. is disposed of throughout the South and 10 per cent. shipped to widely scattered points. Were it not for the fact that there is a limited demand for very small and cheap coal ranges which are not made here, local manufacturers would supply the entire demand. Practically the whole local consumption of gas ranges is taken care of by Baltimore manufacturers.

All of the stove manufacturers maintain foundries, in which are cast iron parts used in the making of the finished product. Sheet steel, of which there is a large amount used, is practically all purchased in the Pittsburgh district, and bolts, nuts, screws and rivets come from Portchester, N. Y. and New England points. Stamped steel parts and tubing come largely from the Middle West, mica comes from North Carolina, and fire brick from Maryland. The foundries attached to the stove works are also utilized in making a general line of small castings for all purposes. Only 5 per cent. of the output is sold to jobbers, 95 per cent. going mainly to retailers. Four of the manufacturers maintain retail establishments. One local stove foundry makes a specialty of casting automobile parts, and another is equipped to make the heaviest character of castings, running up to thirty tons in weight.

The making of coal stoves and ranges is on the decrease, but the output of gas ranges is steadily becoming larger. No steam or hot water furnaces are made here.

GENERAL FOUNDRY WORK—There are fourteen iron foundries in Baltimore, including those connected with the stove plants. All the foundries make cast iron castings, but only one makes malleable iron and two steel castings also. About 75 per cent. of the local consumption of cast iron castings is furnished by Baltimore foundries, 50 per cent. of the malleable and 25 per cent. of the steel. The remaining supply comes from Pennsylvania, within a 100 mile radius of Baltimore, where labor is cheaper and working hours longer. It takes about 60 per cent. of the local production to supply 75 per cent. of the demand in this city for cast iron castings, and the remainder is shipped to near-by points in Maryland, District of Columbia, and southern Pennsylvania. The making of foundry castings is of necessity a neighborhood industry to a considerable extent, as the weight of the product and the narrow margin of profit absolutely limit competition to points where the

freight rate is not more than twelve cents. Although Baltimore foundries are getting a large share of strictly local business, they feel they should secure more near-by patronage. More heavy machinery should also be made here. The present condition is attributed to the timidity of local capital to invest in a business which, while perfectly safe, does not promise especially large profits.

After filling the local demand there remain about 50 per cent. of malleable and 75 per cent. of steel castings, which find a market principally in the North and Northeast, very little going South. Local founders do not carry any castings in stock, their entire output, excepting the stove foundries, consisting of strictly made-to-order wares for machine shops, ship yards, and other plants. Shipbuilders buy all of their castings here. There are two large engineering concerns which maintain their own foundries, but the remainder of these concerns, as well as most small shops, use Baltimore castings.

The business has shown a contracting and dragging tendency since the panic of 1907, with the exception of two good intervening years. The labor situation at this time is favorable, with an abundant supply of skilled workmen who can be had at a reasonable wage, but it is very difficult to secure sufficient trained help when the business is at all brisk.

There are several concerns manufacturing enameled iron signs and kindred articles, such as railroad semiphors, parts of gas ranges, and reflectors for various uses. About 95 per cent. of their product is sold out of town. Two large firms make a general line of sheet steel and iron stamped ware, mainly articles for domestic use.

There is a general line of plumbers' supplies made in Baltimore, including a rather cheap grade of enamel ware bath tubs, lavatories, sinks and toilet bowls. Soil pipe and fittings and water closet tanks and seats are manufactured in medium and high grades, but the stationary wash tubs produced are mainly of a poor quality. Soil pipe and fittings are made on a large scale and supply 75 per cent. of the local demand.

In the plumbers' supply trade it is believed that there is a good opportunity to establish locally a stationary wash tub plant, making tubs of cement in the better grades. There is said to be a very large demand for this product throughout the South and the nearest point at which these tubs are now manufactured to any extent is Brooklyn, N. Y. The bulky nature and weight of the product make the freight rate a considerable factor from that source to southern points.

Plumbers' supplies, such as earthenware closet bowls and china lavatories, are not made here, the bulk of the supply coming from Trenton, N. J.

GLASS AND PRODUCTS

Bottles and Glassware

Baltimore leads the cities of the country in the production of bottles used as perfumery and toilet water containers, and takes a high rank in the manufacture of the general line of druggists' bottles, and also those used for whiskey and other liquors.

About 25 per cent. of the local consumption of the kind of glassware manufactured here is furnished by the local producers. The reason advanced for a larger percentage not being sold at home is that the demand is principally for a cheaper grade of bottles than is made here. 25 per cent. of the local consumption is equivalent to about 30 per cent. of the production. The sales to either local or out-of-town jobbers are insignificant. Most of the bottles made here are of the kind known as "private mould" lettered ware, that is, the druggists and others ordering them have their names blown in the glass. This business has increased about 50 per cent. in seven years and is in a prosperous condition. The outside demand is evenly distributed over the country.

About all the skilled labor needed is obtainable at reasonable wages.

Mirrors and Stained Glass

There are no domestic articles made of glass produced here, nor is there any plate or window glass manufactured in Baltimore. Four concerns are engaged in the manufacture of mirrors, plate glass for which is obtained from the Pittsburgh district and imported. Until the recent tariff law went into effect, materially reducing the duty on plate glass, the entire supply was purchased in this country.

One of the manufacturers utilizes the entire product of his factory in office, bar-room, and other fixtures, and another does work only to order. The manufacturing of mirrors consists of beveling and silvering plate glass and cutting it into required shapes and sizes. About 75 per cent. of the local consumption is supplied by the manufacturers, which takes one-third of their output, the remaining two-thirds finding a market mainly in Maryland and Pennsylvania. The additional supply required to take care of the local demand comes largely from New York and Williamsport, Pa.

The product is sold almost entirely to furniture and mantel manufacturers, and to those who make a specialty of framing mirrors and selling them to retailers.

Of raw materials other than glass, nitrate of silver—which has altogether superseded quick silver as the coating—comes from Pittsburgh and New York, and carborundum, used in grinding, comes exclusively from Niagara Falls.

Two concerns are engaged in manufacturing stained and ornamental glass.

JEWELRY AND SILVERWARE

JEWELRY

Jewelry made of gold, silver, platinum, and other precious metals, constitutes the principal product reported for establishments included under this classification. Inasmuch as some of the concerns do work in whole or in part on materials furnished by others, there is necessarily some duplication in the value of products reported.

This industry has never been developed on an extensive scale and very few of the local concerns are strictly speaking "manufacturers to the trade," confining themselves principally to special order and repair work. Baltimore manufacturers cannot successfully compete with New York and Providence, as their wares cannot be produced as cheaply. In every instance where comparison is possible, the product of the New England manufacturer excels, due to the fact that New York is the recognized jewelry centre of the United States and controls the labor situation so far as skilled workers, designers, lapidaries, and stonecutters are concerned.

Most of the jewelry disposed of through local jobbing houses is of the cheap variety, and there are very few who specialize in this business. There are also a number of wholesale jewelers to the trade carrying limited stocks, but who confine their efforts principally to soliciting orders from samples. These have not been considered in the compilations on this industry.

It is stated that the reason why Baltimore manufacturers do not secure more of the local business is that they do not properly solicit the trade. Their complete lines are seldom ever shown to retail dealers in this city and the merchant is therefore left in ignorance as to what is really produced here. On account of this condition, no retail dealer in Baltimore really knows what is made by the shops at his door.

SILVERWARE

There is more sterling silver hollowware made here than at any point south of New York, but the greater portion of it is sold by the manufacturer at retail, three establishments maintaining retail departments in which they also sell other goods than their own manufacture. This retail feature precludes the possibility of their securing any patronage from other retail merchants.

Baltimore is noted the country over for its hand-made repousse sterling silver hollowware, which has never been successfully imitated in other cities. The out-of-town demand for this line of goods is general, a good portion of the output being marketed in the South. Manufacturers who do not sell at retail secure a small amount of local patronage from retail merchants. One factor which curtails their local sales to merchants is that manufacturers from other cities are disposed to place their wares on consignment for long periods, a method which

local manufacturers do not feel justified in pursuing. Another factor is that by patronizing out-of-town firms, retailers are enabled to show a larger assortment, each manufacturer having his own particular designs. A cheap grade of plated ware is made here in considerable quantities and has a wide market.

Expert labor is cheaper in Baltimore than in most localities where the business is carried on, and overhead expenses also are reported as being lower.

Miscellaneous

The only class of optical goods made in Baltimore is spectacle and eyeglass lenses. There are eight concerns engaged in this business, but only two of them make lenses for stock and these fill prescriptions as well. The other six do prescription work exclusively, selling in connection a general line of optical goods. One of the concerns referred to sells 50 per cent. of his output to jobbers and 25 per cent. to retailers, the remainder being prescription work; the other sells 25 per cent. to retailers, 75 per cent. being prescription work.

Local manufacturers supply about 80 per cent. of the stock lenses carried by Baltimore retailers, and about all of the prescription lenses used. This is equivalent to 50 per cent. of their combined output of stock lenses. The other 50 per cent. is sold in all parts of the country.

There is but one concern that does its own importing of glass and pebble blanks, Rochester, N. Y. and Southbridge, Mass. importers supplying the remainder. Only high grade stock lenses are ground in this city.

LEATHER AND MANUFACTURES

Belting

Three concerns are engaged in the manufacture of leather belting which was inaugurated here about eleven years ago. 90 per cent. of the local consumption is taken care of by them, which constitutes 20 per cent. of their production; 50 per cent. of the product finds a market in the Southern states; and 30 per cent. is distributed throughout the country. About 15 per cent. of these wares are sold to jobbers, nearly all of the remainder being sold to consumers direct. There is not sufficient margin in the business to make it attractive to jobbers.

Most of the hides from which the product is cut are tanned in Virginia. One tannery has a selling agency in Baltimore, others maintaining branches in either New York or Boston.

The manufacture of leather belting is not a growing industry, mainly because of the very large advance in the price of leather. If this is carried much farther, as appears to be the prospect, it would make the cost of the raw material prohibitive, and users would not be willing to pay extravagant prices for leather belting, when that made of canvas (even if much less durable) could be made to

answer the purpose. On account of the increased use of electric motors, there has been a considerable shrinkage in the demand for wide belting of leather, canvas, and rubber, but the changed conditions have stimulated a demand for narrow or auxiliary belting.

Canvas belting was first made in this country by an Englishman who established a plant at Baltimore. At the present time there are four firms making canvas belting, and the entire local consumption of stitched canvas belting, which is the only kind made here, is supplied by the local manufacturers. 5 per cent. of the consumption is of the woven variety, which is made elsewhere. The local demand takes about 5 per cent. of the output, the remainder being sold chiefly in the South and West, where it is used largely in connection with agricultural machinery and saw mills.

Cotton yarn used in weaving and stitching the canvas is purchased principally from southern mills, and the canvas is procured from Baltimore and southern mills in about equal proportions. 80 per cent. of the canvas belting manufactured is sold to jobbers.

Measured in square feet, 90 per cent. of the belting made in Baltimore is of canvas, which represents 75 per cent. in value of the total output of both varieties of belting.

SHOES

Shoes made in Baltimore are mainly high grade. The factories are gradually increasing their business through the manufacture of shoes possessing distinctive individuality and merit, thus giving them a strong patronage. Labor in the industry is scarce.

About ten years ago the business reached considerable proportions, due in a measure to there being 500 or more prisoners employed in the trade. This practice, however, was discontinued about five years ago.

The jobbing business is in cheap, medium, and better grade shoes made principally in New England and carrying the jobbers' names. It has been a source of surprise that more of the larger jobbers did not also become manufacturers, thereby making the maximum profit out of the wares they sell.

HARNESS AND SADDLERY

The number of sets of harness manufactured in Baltimore during the past fifteen years has shown a considerable increase, although the value of the product has decreased. The output of fine driving sets has fallen off about 85 per cent., but, notwithstanding this, there is a considerable increase in demand for utility or business harness, which, however, averages a much lower selling price than the former. About 80 per cent. of the local consumption of harness is supplied by the manufacturers, the patronage being divided between retailers and consumers. Local sales are equivalent to 20 per cent. of total manufactures, the remainder being distributed as follows: 45 per cent. in Maryland, Virginia, West Virginia,

Delaware, North Carolina, New Jersey and southern Pennsylvania; 25 per cent. in the remaining Southern and Southwestern states; and 10 per cent. in other sections of the country and abroad.

There are five large concerns manufacturing a general line of harness. Two of them make collars, and three make saddles also. Six concerns make collars exclusively, and there are four smaller manufacturers of the general line. All of of the harness manufacturers job accessories. Retail manufacturers make harness to order. There are two exclusive jobbers of accessories in Baltimore.

Most of the leather used is secured from tanneries in the West, although patent leather comes largely from Newark, N. J. and Cincinnati, O. Supplies such as tools come from Newark, N. J., and hardware is shipped here from Newark, N. J., Cleveland, O., Buffalo, N. Y., and New Britain, Conn. Metal hames are secured from Newark, N. J., and wooden and metal-bound hames from the West. In accessories there are two manufacturers of whips, one of them making fly nets also, but the bulk of these articles comes from New England. The greater part of robes and blankets is purchased in Massachusetts, although a portion comes from Philadelphia and New York.

Seventy per cent. of the output of exclusive manufacturers of horse collars is sold locally, 25 per cent. disposed of within a radius of 100 miles, and the remainder shipped to widely scattered points. Most of the cotton cloth used in the making of collars is purchased from local mill representatives and jobbers; padding material, both hair and straw, locally; hardware from Connecticut; and thread from Massachusetts. The business has fallen off in fine coach and patent leather collars, but has increased in the utility or cheaper lines.

One concern makes a specialty of manufacturing street car straps and sells practically its whole output to car building concerns.

Finishing of Leather

This industry has dwindled from thirteen concerns engaged in the finishing of steer and other cattle hides to two firms, both of which collectively are not doing as much business as the smallest of the original thirteen. This transformation has taken place within the last fifteen years and the present condition is very largely due to the tanneries now doing their own finishing. There were 1,800 sides of leather finished here last year, as compared to an average of 54,000 per annum when the business was at its height. Only steer and cattle hides are being finished at present, although in the past many calf skins were so treated. One of the present establishments finishes leather for harness and belting purposes, and the other also furnishes a considerable amount of that used in making shoe skirtings.

Ten years ago Baltimore supported one establishment tanning beef hides, but the business has since been discontinued. There are at present two concerns tanning sheep skins.

Miscellaneous, Including Trunks

There is but one concern in Baltimore manufacturing trunks, exclusively for the jobbing and retail trade. Three other concerns make a general line of trunks, but retail most of their wares locally, selling a small percentage of their output to dealers in other cities. Three additional concerns make sample trunks, mostly of fibre, such as are used by traveling salesmen, and these are sold all over the country. Very few suit cases and traveling bags are made for stock purposes. This is also true of ladies' hand bags and other leather specialties.

About 50 per cent. of the trunks sold in Baltimore are made locally, the remainder being bought in Newark, N. J., Richmond, Va., and western points. The local trade of the manufacturers is equivalent to about 75 per cent. of their output, the surplus being distributed 15 per cent. in the South and 10 per cent. in the North and West.

All materials entering into the making of trunks, bags and suit cases are purchased in other cities, none of them being made here. Leather comes chiefly from Massachusetts; lumber, which is principally basswood, from Michigan; hardware and locks from Connecticut, Missouri and Wisconsin; tacks and nails from York, Pa.; and sheet and hoop steel from Pittsburgh.

The bags and suit cases made locally constitute a very small fraction of the Baltimore demand, the bulk of those sold coming principally from New York and Philadelphia. The trunk business has shown considerable growth in the past five years.

LUMBER AND MANUFACTURES

Baskets and Willow Ware

Three firms are engaged in manufacturing splint baskets. This industry is seriously handicapped through the source of supply for raw materials. The braids, hoops, handles, filling, etc., are cut from the log by mill people in New York, Ohio, Indiana, and Michigan, and shipped to Baltimore in mat form to be shaped into baskets. This condition cannot be improved as our hardwood timber is not adapted to the manufacture of baskets. Fortunately, the finished product of those mills cannot be laid down in Baltimore to advantage, as the freight rate acts as a barrier which, when added to their cost of manufacture, places the mills at a disadvantage. Quite an assortment of lunch, willow, fancy fruit, Easter and candy baskets are imported from Europe since they cannot be manufactured locally at a profit.

There are twenty or more concerns and individuals engaged in the manufacture of willow baskets. While the majority of these are made to supply the local demand, about 25 per cent. of the output is shipped to nearby cities. 75 per cent. of the willow used is grown in Maryland, the remainder being imported

from Europe as the nature of the latter is such that it cannot be successfully grown here.

Baskets and willow ware are being successfully jobbed, as the manufacturer enjoys no advantage over the jobber in obtaining raw materials. The industry in the main is merely the assembling of finished parts.

Boxes, Barrels, Etc.

Baltimore is a favorable location for manufacturing boxes, shooks, and crates. Local concerns are securing practically all the business, with the exception of a limited demand for strictly northern white pine odorless shipping cases, which is taken care of by New England manufacturers. Compared to northern cities, Baltimore manufacturers enjoy a decided advantage in raw material because of the lower freight rates by water from South Atlantic states which are the acknowledged centres for wooden box timber. Furthermore, the cost of labor is somewhat cheaper than in northern cities and the efficiency is quite as high as elsewhere. Local plants are well equipped with modern and labor saving machinery.

About five years ago fibre boxes were introduced in the local market in competition with the wood variety. All wooden box manufacturers are meeting with considerable competition from producers of fibre boxes; especially is this true in the smaller sizes, although the fibre product is in successful use in boxes of 30'' x 27'' x 35'', a container of popular dimensions for many purposes. At the present time there are no establishments in Baltimore manufacturing fibre boxes.

Boxes in shook form are successfully jobbed or handled by commission men. This is true particularly in the canned goods trade, the demand from which is a large item in the local industry. Jobbers supply about 35 per cent. of the boxes used by the packers of oysters, fruits, and vegetables in and around Baltimore. The reasons advanced for this condition, though not entirely convincing, are long custom, longer credits, sales in smaller quantities, and deliveries as required.

Supplies incident to the trade are hemp rope, strap iron, and corrugated fasteners. None of these articles is manufactured in Baltimore.

The business has shown a small but healthy growth over a period of years and the number of manufacturers is on the increase. Sharp practice is not resorted to among local firms and competition is on a fair basis.

CIGAR BOXES — Cigar box manufacturers are adequately equipped to supply the local demand, although 75 per cent. of the boxes used in Baltimore are shipped in, principally from Pennsylvania points. The acknowledged source of supply for raw material (cedar) is Cuba. The logs are shipped to New York and Pennsylvania points, cut into boards, and re-shipped to consuming centres.

The grade of cigar boxes made here ranks among the highest, and competition wherever encountered is on price only. Plants are well equipped with modern machinery. From the standpoint of labor, Baltimore has a decided advantage over other eastern cities.

Cigar boxes are a commodity that cannot be successfully jobbed, as they are a made-to-order specialty and the product of each manufacturer has a certain individuality. Logically it is not a neighborhood industry and the field for expansion is unlimited. This trade purchases its supplies, such as glue, sizing and gold leaf (Schlag gold) from jobbers and outside sources. All are specialties peculiar to the trade and the demand is limited. The lithographed labels used in the trade cannot be procured in Baltimore, as our local concerns are not able to cope with competition from New York firms who specialize in this work.

COOPERAGE—Practically all barrels manufactured locally are for home needs and the combined capacities of the local establishments exceed the share of business which they are able to control, equaling about 75 per cent. of the local consumption. The remainder is furnished by Peoria and Cincinnati firms. This condition has necessitated retrenchment on the part of some firms and the retirement of others.

Slat and truck barrels are being shipped in freely from Norfolk and Eastern Shore points.

TANKS—The spasmodic demand for wooden tanks would not justify any added facilities in this line. The product of the local factory is being shipped throughout the United States, the business here being very limited.

FURNITURE

There are thirty-four concerns engaged in the manufacture of a wide variety of furniture, although most of them specialize on a few articles. Of these, fourteen are absolute manufacturers, taking the lumber in the rough and working it up to the finished product. The others assemble finished parts which are shipped in. There is no metal furniture made here, such as beds, costumers, letter files, etc., and all of the office furniture produced in Baltimore is assembled. Trimmings, such as handles, locks, ornamental pieces, castors, etc., are not made locally. No kitchen cabinets are made here.

About 15 per cent. of the furniture sold at retail in Baltimore is manufactured locally, which constitutes 25 per cent. of the total output; 50 per cent. is marketed in the Southern states; and the remainder sold in New York, Delaware, and Pennsylvania. The hardwood lumber used is largely purchased of local jobbers, although some is procured directly from the mills. In upholstered furniture, the leather comes principally from New Jersey, hair and other stuffing materials from New York City, and hardware from New York, St. Louis and New England points. There is no very common furniture produced here with

the exception of some assembled chairs, most of the product being of medium and strictly high grade quality, especially couches, davenports and upholstered chairs.

There are two concerns who make a specialty of manufacturing dining room extension tables, and three others who make complete sets of dining room furniture. About 50 per cent. of the local demand for this class of furniture is supplied by the home manufacturers, the remainder coming from factories located in Hagerstown, Md., Pennsylvania and North Carolina points, and the West. The home demand is equivalent to about 25 per cent. of the output. A market for the surplus is found in the Middle Atlantic and New England states.

There is a scarcity of really expert help, which has a tendency to limit the production. For some reason the manufacturers are not catering to the local retail trade to nearly the extent that they might with profit.

Millwork

There are six large and three small establishments manufacturing millwork. All but one confine their efforts largely to making sash, blinds, doors, door frames, trimmings and mouldings for buildings on specifications. These wares are manufactured in medium and high grade, mostly the latter. The cheap and a large portion of the medium grades come from the West, as far as the states of Washington and Oregon, the great bulk, however, being shipped in from Wisconsin, although some yellow pine and cypress come from the South. Finished sash, blinds, doors, door frames and trim, in medium and cheap grades, can be laid down in Baltimore as cheaply as the local mills can have delivered to them here the rough birch, oak, ash, fir, and yellow pine lumber, but articles in cypress can be made here as cheaply as anywhere. About 80 per cent. of the local product is sold in Baltimore and the remainder in near-by points, our manufacturers securing about one-third of the local business in value of product, but scarcely 10 per cent. in number of pieces turned out. Practically all of the local mills job western and southern millwork. Veneered doors from Oshkosh and Warsaw, Wis., and Pennsylvania points can be laid down in Baltimore cheaper than they can be made here, even in the higher grades.

Three concerns make wooden mantels, two for stock and one to order. The stock mantels are mainly of low grade.

Ninety-five per cent. of the wooden mantels used in Baltimore is supplied by the manufacturers, which is equivalent to about 50 per cent. of their output. The remainder is shipped principally to Middle Atlantic and New England states, a small percentage being shipped South and abroad.

Miscellaneous

The chief industries under this classification are the piano and casket manufacturers. Three concerns are engaged in the making of caskets, burying

cases and outside boxes, although two of them manufacture only on a small scale. About half of the local demand is supplied by the manufacturers and the remainder shipped in from the East and West. The local demand takes one-third of the output, the surplus going to southern states generally. Very few high grade caskets are made here, the bulk of production being medium and low grade. One firm jobs a small quantity of locally made caskets, but the larger portion of the Baltimore production is sold to undertakers direct.

In raw materials, chestnut, oak and poplar come largely from the South and Southwest, rosewood and mahogany from South America, and walnut from all sections of the country. Pine is required to be of the knotless variety and is obtainable only in the northern sections. Textiles, such as silks and satins for linings, and broadcloth and silk plushes for outside coverings, are imported to the extent of 25 per cent. Handles, rails and other hardware are bought in New England and from western points. The business is showing a growth about proportionate to the increase in population.

Varnishes, stains and such materials come from Boston and Ohio points, with some very cheap grades from the South. Glue is procured chiefly from western meat packers.

Two concerns are engaged in manufacturing pianos, their output consisting largely of strictly high grade instruments. The business was established here in 1837 and has shown a gradual healthy growth. 90 per cent of the hardwood lumber used is purchased from Baltimore jobbers. The hardware required is bought largely in New York and Connecticut. Baltimore manufacturers secure an adequate share of the local patronage and, in addition to selling their product throughout the country, export 4 per cent. The labor situation is very favorable, there being an abundant supply of skilled workmen at a reasonable wage.

One firm is engaged in the manufacture of organs, five concerns manufacture picture frame mouldings, five firms make patterns and models, one makes plumbers' wooden supplies and one makes veneer.

PAPER AND PRINTING

Boxes, Bags, Etc.

The paper box industry is in a flourishing condition, having shown a healthy growth during the past five years, the increase in production having been at the rate of 10 per cent. per annum.

Although the local consumption of paper boxes is sufficient to absorb all that are produced, the manufacturers are getting only 60 per cent. of the patronage. Their most serious handicap is the lack of cardboard mills in this vicinity, which necessitates the supply of cardboard being brought here from considerable distances. The principal sources of supply are New York, Ohio and Pennsyl-

vania. From a study of conditions it appears that none of these places, nor in fact any others, are more advantageously located for the manufacture of cardboard than is Baltimore, in and around which there is plenty of fresh and salt water which is extensively used in soaking the pulp. It is a mistaken idea that raw wood pulp is the principal basis of cardboard. Only 10 per cent. of this product enters into its composition (and this merely to give it the requisite bending qualities) and the remaining 90 per cent. is waste paper pulp, which can best and most cheaply be obtained in large cities.

The labor situation is distinctly favorable and the distribution facilities are all that can be desired.

Paper boxes are extensively jobbed, but the bulk of the product is sold to the consumer direct, with the exception of some few fancy Christmas boxes. A great many of the cardboard mills are also equipped to manufacture boxes, especially of the folding variety, and competition where encountered is largely from these sources.

There is one concern in Baltimore manufacturing paper bags, and one reported as making paper pie plates and kindred articles.

Printing and Publishing

This classification includes establishments doing book and job printing, printing and publishing newspapers and periodicals, lithographing, book-binding and blank book making, and engraving. No separate statistics were compiled for the various branches of this industry, due to the fact that they are so closely allied and consequently overlap in a number of instances.

The printing industry in Baltimore is in a fairly satisfactory condition, though it has not shown the same proportionate growth during the past four years that characterized it during a similar previous period. This condition is accounted for by slack business conditions in all lines and is no more true of this city than of other centres. It is claimed that the printing trade is more easily affected by recessions in business than almost any other industry but is just as quick to recover with increased commercial activity.

Some of the larger Baltimore establishments have suffered from over-equipment, that is, more machinery, particularly presses, than could be kept busy, thus increasing their operating expense beyond a reasonable limit. It is authoritatively stated that a plant with more than ten cylinder capacity cannot be operated profitably in Baltimore, although a number of establishments have exceeded this limit but with unsatisfactory results. These deterrent conditions have been largely remedied.

It has been ascertained that a large portion of the commercial printing done in Baltimore is on out-of-town orders, the bulk of this patronage coming from New York, although the entire country generally is served, particularly the

South. This condition is alleged to be due both to the inability of Baltimore printers to secure adequate prices for their product in this city and the installation of printing plants by no less than twelve large local corporations.

There has been a notable improvement in the average quality of printing done in Baltimore during the past five years. A recent exhaustive investigation and competitive comparison of product developed that the work of our local establishments showed a typographical and general excellence superior on the whole to that of any other large competing centre, comparison having been made with such cities as New York, Chicago and Philadelphia, under the direction of an authority in the trade.

There are eight concerns in Baltimore which print labels of various kinds exclusively, four others doing this kind of work in connection with other printing. Baltimore is said to stand second among the cities of the country in the production of labels. The business has grown at an annual rate of 11 per cent. for the past four years and is in a very prosperous condition. Of the total amount of labels turned out, 85 per cent. are printed and the remainder lithographed.

Baltimore printers fill 90 per cent. of the local demand for the product, which requires 25 per cent. of their output. Altogether 40 per cent. of the local production is taken by canned goods manufacturers here and elsewhere. Labels for bottled beer and soft drinks are extensively made and also a general line for druggists and manufacturers of toilet preparations.

Labor conditions are very favorable, the average scale of wage being practically on a par with Philadelphia but considerably less than the prevailing rates of pay in New England cities.

About 75 per cent. of paper of all descriptions used in this industry is purchased through local jobbers, so far as commercial and general printers are concerned, and the newspaper plants purchase all of their paper stock from mills direct. Most of the local jobbers purchase paper in car-load lots, which enables them to compete successfully with manufacturers. About 90 per cent. of the printers' rollers are purchased from and recoated by local manufacturers. Practically the entire ink supply is purchased out of town.

Printers Supplies

There are three electrotype concerns in Baltimore which manufacture for the trade, and three controlled by private printing plants for the purpose of supplying their needs. About 90 per cent. of the electrotypes used are supplied by the local manufacturers, the remainder coming from Philadelphia and Cincinnati. The former city supplies a very high grade of electrotypes and the latter furnishes very cheap grades. The local demand is equivalent to about 65 per cent. of the output, and the surplus is distributed generally throughout the South and in southern Pennsylvania. Of raw materials, blue stone, copper plates, sulphuric acid and a portion of the electrotype metal are purchased of local manufacturers;

moulding and polishing lead, moulding wax, iron filings, tin foil, nails, soldering fluid and bases—the latter being a composition—are purchased out of town.

Three concerns make printers' rollers and they furnish about 90 per cent. of the consumption, the remainder coming chiefly from New York and Philadelphia. The local demand is equivalent to 90 per cent. of the output, 10 per cent. being marketed in the South. Local machine shops make a considerable number of the roller cores, but a majority are purchased from outside sources.

The principal articles used in the coating material are glue and glycerine, both of which come chiefly from the large western packing houses. Other ingredients are more or less of a secret nature, each roller maker having a formula of his own.

There is one concern manufacturing printers' ink in rather a small way, the output being largely disposed of in this city.

Paper and Stationery

One concern makes a general line of envelopes on a limited scale and is liberally patronized by the local printers and stationers. The business is growing rapidly and it would appear that there is room for other manufacturers. Nothing else in the line of stationery is made here to any extent.

TEXTILES

Awnings, Tents and Sails

Baltimore cannot properly be called much of a centre in the production of awnings, tents, or sails. The nine concerns engaged in the business confine their efforts largely to supplying the local demand, and 95 per cent. of the consumption is furnished by these manufacturers, which is equivalent to 70 per cent. of the output.

The demand for awnings has increased about 40 per cent. in the past five years, while that for tents has remained stationary and the output of sails has fallen off about 50 per cent. Twenty-five years ago, when Baltimore was the home port of one of the largest sailing fleets which traversed the seas, sail making was an extremely large and important industry, but since that time the production has decreased at least 75 per cent. and is still falling off from year to year.

Materials for awnings come almost exclusively from New York selling agencies of New England cotton mills, but nearly all of the rope used is made in this city, as is also the major portion of iron frames and supports. Supplies, such as cotton-duck, rope, and twine used in making sails and tents, are practically all secured from local manufacturers. Spring rollers for awnings are made here, the metal parts being cast, the rollers turned, and springs manufactured by different concerns.

During busy seasons help is scarce in each line except sail making.

Cotton and Burlap Bags

There are four concerns engaged in manufacturing burlap bags in Baltimore, one of them making cotton bags also. The largest of the four imports and jobs burlap, having East India as its principal source of supply, the remainder coming from Scotland.

Ninety-five per cent. of the local consumption of both burlap and cotton bags is furnished by these manufacturers, taking about 30 per cent. of their output; 65 per cent. is sold in the Southern states generally and the remaining 5 per cent. goes to widely scattered points.

About one-half of the material used in the making of cotton bags comes from southern cotton mills and the other half from New England. Twine for sewing is purchased from local manufacturers.

The business is in splendid condition, having shown a 15 per cent. increase in the past four years. A large portion of the burlap bags sold locally is used by the fertilizer manufacturers and there is a good demand for the cotton bags from near-by cement plants.

Carpets and Rugs

There are but two concerns making rugs in Baltimore, one producing rag rugs and the other an imitation Oriental article. One of the firms also makes rag, cheap ingrain, and woolen fibre carpets. The industry has never been developed in Baltimore. 30 per cent. of the product is sold locally, most of the remainder finding a market in southern Pennsylvania.

Heretofore all the jute yarns came from mills in New York and Brooklyn, but since the enactment of the recent tariff legislation more than one-third is imported from Scotland. The rags used are by-products of cotton cloth and other mills, and the woolen yarns come from manufacturers in different parts of the country. Paper fibre, a material extensively used in the making of fibre rugs, comes from mills which make a specialty of twisting tissue paper into endless strips.

There are more rugs of the variety known as summer rugs (composed largely of grass and fibre) jobbed in Baltimore than in any other city, and other rugs and carpets are jobbed here on a fairly large scale. Summer rugs are in extensive demand throughout the South and Southwest, because of the higher temperature there and the longer duration of warm weather in those sections. Baltimore jobbers have secured and are holding a large portion of this trade. None of this class of rugs is made south of Philadelphia, though there appears to be no good reason why some of the grades should not be manufactured in Baltimore.

Cottons and Prints

Located within Baltimore's industrial district are five concerns manufacturing cotton-duck, each of which also makes cotton rope, seine twine, yarn and

lamp wicks. 98 per cent. of the local consumption of these articles is supplied by the local manufacturers, which takes only about 3 per cent. of their output. The outside distribution is approximately as follows: 48 per cent. to shipbuilders for awnings, life boat covers, and deck coverings, to manufacturers of harvesting machinery for grain conveyors and to paper mills for dryers, etc.; 35 per cent. to jobbers all over the country; 9 per cent. to the Federal Government; and 5 per cent. exported.

Cotton-duck was originally made for sails exclusively but now only about 1 per cent. of the material is used for this purpose. Jobbers of cotton-duck sell their materials largely to makers of awnings, tents and sails, and to ship chandlers. There are no jobbers of these wares here.

Baltimore produces more genuine cotton-duck—not including the thin coarse product improperly so called—than any other city in the country and many of the brands made here have a world-wide reputation for quality and uniformity, which in some instances have commanded a premium of 5 per cent. The raw material comes largely from the South.

It is very difficult to secure an adequate supply of labor, which is mainly female, in busy seasons.

Clothing—Men and Boys

Under this classification are included establishments engaged chiefly in the manufacture of men's and boys' clothing, such as overcoats, suits, trousers, raincoats, and other clothing specialties.

This is one of the most important industries of Baltimore and has shown a decided expanding tendency during the past five years. The manufacture of clothing, by way of illustration, can be divided into three grades: low, medium and high priced. Local production is largely confined to the medium and high priced lines and as a result this market stands third among the cities in value of output.

Although Baltimore practically controls the southern trade and the trend of the business is therefore naturally to the South, representative manufacturers thoroughly cover all sections of the country, and Baltimore-made clothes are to be found in the stores of the best retailers from Maine to California. A number of manufacturers have inaugurated a campaign of national advertising which is contributing largely to establishing this city as a clothing manufacturing centre. As a matter of fact, clothing is one of the few local products that is extensively advertised, and the results attained by these progressive firms should stimulate other industrial pursuits to follow their example. Because of its intimate knowledge of climatic conditions and the requirements of the southern people, Baltimore stands first and foremost in the manufacture of summer goods' specialties, a feature which at the present time offers the greatest opportunities.

Contract shops are fast being eliminated and there is a marked tendency to confine the manufacturing of clothing to large plants which, as a whole, measure

up to the most modern type and have been used as models by manufacturers in other cities.

No clothing manufacturing centre has so closely studied and provided for the protection of the workmen and sanitary conditions as has Baltimore. As a result of this and of the favorable economic conditions prevailing, a large number of men and women of various nationalities have been attracted here.

OVERALLS AND WORK SHIRTS—These industries are very closely allied in Baltimore, in that, as a rule, both products are made in the same factories. 75 per cent. of the local output is sold to jobbers throughout the country, only two of the factories catering exclusively to the retail trade. Local retailers purchase almost their entire supply of overalls from Baltimore manufacturers, the remainder being procured from Newburgh, N. Y., and Patterson, N. J. Local jobbers are not liberal patrons of home factories, in that they encourage a demand for sub-standard wares in both overalls and work shirts, not produced in Baltimore to any great extent. In the better grades Baltimore manufacturers are getting a fair share of the local jobbers' requirements, which however are extremely small in the aggregate. In work shirts, Baltimore jobbers handle mostly New York lines, because sweatshop labor in that city has enabled the manufacturers there to undersell the local producers in this market.

About 90 per cent. of the material used in overalls and work shirts comes from southern cotton mills and in this respect the local concerns enjoy a certain advantage over their northerly competitors, as New England mills do not specialize on that class of material. Throughout the South the manufacture of overalls and work shirts has of recent years become a neighborhood industry of considerable magnitude.

Findings, such as trimmings and buttons, are purchased out of town, pearl buttons and trimmings coming from New York and metal buttons from New England.

The labor situation is quite favorable, manufacturers having little trouble in securing an adequate supply of experienced help at reasonable wages. The business shows a growing tendency, and 1913 was a very successful year from the manufacturers' standpoint.

Men's Furnishings

NECKTIES—Baltimore ranks second among the cities of the country in the manufacture of men's neckwear. Of the twenty concerns engaged in the industry, eighteen specialize and two conduct the business as a side line.

The quality of the output runs from medium to fairly high grade, embracing lines that retail from 25 cents to $1.50 each, although one concern makes a line that retails at 10 cents. Manufacturers cater principally to local and southern trade, but also sell their wares in the Middle Atlantic states and the Middle West.

Fifty per cent. of the local consumption is supplied by home manufacturers. The jobbers' trade is not solicited to any great extent locally or elsewhere, as the line does not adapt itself to being successfully jobbed.

Ninety per cent. of the materials used are silks and satins, all of which are purchased in New York from importers and manufacturers. The material for wash ties is secured from New England mills.

Experienced help is scarce in busy seasons, and manufacturers are constantly training new female employees.

UNDERWEAR—Baltimore leads the country in the production of men's underwear of nainsook, madras, silk, muslin, and linen. Lisle and cotton mesh undergarments are not made here. Of the ten concerns engaged in the industry, five are manufacturers of underwear exclusively, and an equal number combine its manufacture with that of other closely allied lines, such as pajamas and night shirts. 50 per cent. of the local consumption is supplied by these concerns, in addition to which a small amount is sold to local jobbers.

The product is distributed generally throughout the country, the largest amount proportionately going to the South. There is comparatively little strictly high grade underwear made here, 75 per cent. of the product being medium quality, and 25 per cent. divided between high and low grade. Most of the local output is of light weight.

Cotton goods are secured largely from southern mills and from New York agents of New England mills. Silk and linen are purchased in New York. Buttons, principally pearl, come from western points.

The business has expanded steadily for a number of years, the chief handicap being the labor situation, with the scarcity of expert female help and high wages demanded.

PAJAMAS AND NIGHT SHIRTS—Baltimore ranks high among the cities of the country in the production of pajamas and night shirts. This industry was established in 1881, and at the present time there are five concerns manufacturing this character of men's wear, one of them specializing. All grades are manufactured, the medium grade, however, predominating.

Baltimore retailers are liberal patrons, as are also the jobbers who cater to out-of-town trade. New England mills furnish most of the materials, a small per cent. coming from the South. A portion of the cotton goods is converted from plain into patterned material by the local concerns.

The business is showing a consistent growth. The distribution is country wide, and one or two of the local brands have a national reputation.

It is difficult to secure ample trained female help in the busy seasons.

DRESS SHIRTS—There are fifteen concerns manufacturing men's dress shirts, almost all of them confining their operations to this one line. Manufacturers

supply about 25 per cent. of the local consumption and 10 per cent. of the amount jobbed here. The bulk of the jobbing demand is for lower grades of shirts than are produced in this city. Manufacturers find a market for their product all over the country, although, as is the case generally, they experience considerable difficulty in competing with goods made in Troy, N. Y. Of the total output, 75 per cent. is of a medium grade, the remainder being evenly divided between high and low quality. The greater portion of material used comes from New England and southern mills, purchases from the latter source being on the increase.

The business is expanding at a gratifying rate, but, as in all other lines requiring a preponderance of female help, manufacturers find it difficult to obtain a sufficient amount of experienced help in busy seasons.

SUSPENDERS—Manufacturing suspenders is a business of small proportions in Baltimore. Five concerns are engaged in the industry, two of them specializing. 60 per cent. of the output, which is in cheap and medium grades, is sold to local retailers, and the remainder shipped. No effort is made to supply the jobbing trade for the reason that the local line is not adapted to their requirements. Webs are purchased in New England as is also most of the leather used.

Although the business is just about holding its own, the aspect of it has changed. Ten years ago there were engaged in this industry a considerable number of small concerns, whereas at the present time there are fewer but larger ones, a condition which shows concentration in stronger hands. The labor situation is favorable.

MISCELLANEOUS—One concern does a considerable business in making belts for women and children, but there are no men's belts made here. No hosiery or garters for men are made here.

Hats and Caps, Except Straw

Of the twelve concerns engaged in the manufacture of hats and caps, seven are of considerable size and the remainder small. 20 per cent. of the production is sold locally, 15 per cent. to retailers and 5 per cent. to jobbers. 90 per cent. of the product sold out of town is shipped to retailers direct, the other 10 per cent. to jobbers. The Southern states are the principal market for these wares, although trade in the Middle West is extensively catered to. The greater portion of the product is medium in quality, one-third being divided equally between low and high grade. Up to a few years ago the demand for cheap caps was very heavy, and half of the production was of a grade retailing at 25 cents, but since that time the quality has been greatly improved.

Manufacturers contend that they could dispose of 15 per cent. more of the product if they could secure ample and competent help, which largely consists of men and boys. The business has shown a growth of about 7 per cent. per

annum for the past five years. The local output of soft and stiff felt hats for men and boys is limited to one concern.

All materials in cloth and trimmings are purchased from New York jobbers, as local jobbers do not handle the kinds required.

Ladies Apparel

There are ten establishments in Baltimore making children's and misses' dresses exclusively. Four other concerns manufacture them as a side line. This city ranks high in the production of cheap and medium grades, and one firm produces the highest grade of children's dresses in the country. The business has shown a steady increase for the past four years, and the volume of business for 1913 was the largest in the history of the industry.

Of the total output, 15 per cent. is sold locally, divided between 10 per cent. to jobbers and 5 per cent. to retailers, and the remainder is marketed out of town. Of the whole product, 20 per cent. is sold to jobbers and 80 per cent. to retailers.

Seventy-five per cent. of the cloth used comes from New England mills and 25 per cent. from southern mills. Trimmings are bought chiefly in New York and most of the covered buttons, which are but little used, are purchased in this market. Pearl buttons come from different points along the Mississippi River, being made of fresh water shells.

Twenty-four concerns manufacture middy blouses, several of them devoting their entire facilities to this line. Inasmuch, however, as the demand for middy blouses reached its zenith about two years ago, and their sale has since been considerably curtailed, a number of these firms will abandon their manufacture, and in most instances will make ladies' waists instead.

The difficulties which the manufacturers complain of are lack of consideration from local retailers, including department stores; impossibility of getting buyers for large retail merchants elsewhere to make a practice of visiting this market periodically, which necessitates calling on them; and a scarcity of experienced female help in busy seasons. Local contract shops do not work to any extent on children's and misses' dresses.

LADIES UNDERWEAR—Four concerns are engaged in this industry as both manufacturers and jobbers. The product consists of muslin skirts, drawers, corset covers and gowns, and flannelette gowns. No knit underwear is made here, although there is apparently no good reason why it should not be. In the flannelette output, Baltimore stands second among the cities of the country. The muslin underwear trade has shown a rapid and uniformly steady growth during the past four years. The business as a whole is not of much importance considering the size of this city. The output is of medium grade, 90 per cent. of the product being shipped and the remainder taken 7 per cent. by local jobbers and 3 per cent. by retailers.

Most of the muslin comes from New England and southern mills. Trimmings are imported to the extent of 75 per cent., New York jobbers and local lace manufacturers supplying the remainder.

The complaint of manufacturers is the scarcity of female help in busy seasons.

CLOAKS, SUITS AND SKIRTS—There are forty concerns engaged in this industry, but Baltimore does not as yet occupy a very high rank among the cities of the country in the production of this class of wearing apparel. The output is very largely cheap and medium grade garments, the production of the former having increased 20 per cent. and the latter 5 per cent. in the last four years. Local jobbers are extensive purchasers, having taken 45 per cent. of the total output last year. Local retailers purchased 5 per cent. of the production and the remainder was shipped out of town.

Manufacturers complain of the small amount of patronage extended them by Baltimore's retail merchants.

Materials, such as cloth, linings, buttons and trimmings, must of necessity be purchased out of town, which is a serious handicap to the industry. Labor, although plentiful, is strongly organized.

MISCELLANEOUS

One concern makes a very complete and high grade line of men's and women's knit wool sweaters. They cater only to jobbers, local firms taking 15 per cent. of the output. Worsted and wool yarns come from Massachusetts and Pennsylvania, and buttons from Iowa.

There are two concerns which do an extensive business in the manufacture of coat paddings. One of them also makes canvas fronts, being the only one in the country engaged in this line. With the exception of two clothing manufacturers who make their own coat pads, 95 per cent. of the local demand is furnished by these two firms, which is equivalent to 50 per cent. of the combined output, the remainder being distributed among clothing manufacturers in Chicago, Rochester, N. Y. and other centres. No attempt is made to compete for New York business as the demand is filled largely by sweatshops.

Four concerns make window shades, that is, they assemble finished parts. Their output supplies about 90 per cent. of the local consumption, which is equivalent to one-third of the production, the remaining two-thirds going to southern points. Materials are purchased in New York and imported. Spring rollers come from Newark, N. J. Only the retail trade is catered to by the manufacturers.

TOBACCO

The tobacco manufacturing industry is, by itself, classed as one of the principal generic groups of manufacturing industries. As it would be impracticable to differentiate between the distinct branches of tobacco manufacture, and also in order to avoid overlapping, statistics covering all branches of the industry have been compiled under one heading, which includes smoking tobacco, cigars, cigarettes, and snuff.

The factory selling value of cigars has shown very little increase during the past four years, but in the number manufactured the production was the largest in the history of the industry. These conditions were caused by the greater demand for five cent cigars. The number of establishments has shown a considerable decrease during recent years, a condition which is universal and not peculiar to Baltimore, because the small manufacturer is finding it unprofitable to remain in business in view of the competition encountered. There is a decided scarcity of help, which has necessitated the installation of suction tables operated by girls. Keen competition among local manufacturers on well established and advertised brands has raised the quality of the five cent cigars to a higher level than obtains in any other city in the country. Ten years ago the industry employed about two-thirds male help, whereas at the present time women and girls are employed to the extent of 75 per cent. in the larger factories. The tendency of large factories in other cities is to establish branches in small towns, and although the Baltimore manufacturers have not as yet adopted this method, they may be driven to it in view of the saving in overhead charges and cost of labor. The cigar industry in Baltimore is in better condition at the present time than is the case in almost any other large city: all of the factories are running to their average capacity, while in other centres some are shut down entirely and others running only part time.

The trend of the distribution, which up to ten or fifteen years ago was decidedly south, is now westward, many local manufacturers having built up a trade which reaches to the Pacific Coast, while at the same time holding their southern trade. Transportation facilities are all that could be desired. All factories of any size are thoroughly equipped with modern labor saving machinery.

The recent tendency is to place an ever increasing amount of product through jobbers, as it has been found that they can handle the goods in small quantities, along with other products which they sell, cheaper than the manufacturer, and it is the small consignments that make up the volume of the business.

Enough cigar boxes are manufactured here to supply the demand, but the trade purchases its boxes to the extent of 75 per cent. from Pennsylvania manufacturers. All lithographs for boxes and cigar bands are purchased in New York, since there are no producers of this class of color work in Baltimore.

TOOLS AND HARDWARE

Builders Hardware

There are two concerns engaged in making sash and elevator weights. It takes 10 per cent. of the output of these manufacturers to supply 95 per cent. of the local consumption, the remaining 90 per cent. being distributed from Maine to Texas. 50 per cent. of these materials is sold to jobbers, 40 per cent. to retailers, and 10 per cent. to builders.

The raw materials consist of scrap iron and tin, and because of the large home supply, local manufacturers have an apparent advantage over competitors located in other cities.

One concern manufactures metal sash and supplies 40 per cent. of the local demand, which is equivalent to 10 per cent. of its output, the remainder being disposed of principally in the South.

Two concerns make metal ceilings on a rather small scale and secure 25 per cent. of the local business, which takes 50 per cent. of their production, the other 50 per cent. being distributed largely to near-by sections.

Miscellaneous

One local concern manufactures copper rivets and burs, soldering coppers, escutcheon pins, nut locking washers, etc., and supplies about 75 per cent. of the local demand, the remainder being shipped from points in the North. This firm has facilities for making cut and wire nails of steel and iron. Two concerns make brass and iron cobblers' nails, tacks, and glaziers' points, and secure a market locally for 10 per cent. of their production, the remaining 90 per cent. being sold one-third in the South and two-thirds over the country generally and exported.

Two concerns are engaged in the manufacture of nuts and bolts.

One firm is engaged in oxidizing nails and it secures a fair share of the local business. One company makes a patented wire nail largely used by roofers and by railroads. Their product is marketed throughout the country, the local sales being comparatively small.

The manufacture of cutlery in Baltimore is carried on by three concerns who make oyster knives, one of whom makes a complete line of paring knives also. A very small fraction of the local demand is supplied by these manufacturers, which is, however, equivalent to 10 per cent. of their output, 90 per cent. going to northern, southern and western points, mostly coast cities. A limited amount of cotton and box hooks is made here and marketed in the South. The steel used comes almost entirely from Sheffield, England. Handles come largely from New York.

VEHICLES

Horse Drawn

In the building of horse drawn vehicles Baltimore manufacturers, in common with those of other centres, have seen their business decline to an appreciable extent, but this curtailment has been largely in carriages and pleasure vehicles, which have been almost entirely displaced by automobiles.

Twenty years ago there were twelve large concerns and a considerable number of smaller ones engaged in building carriages, several of them having gained a national reputation on their wares, but today there remain only two, and these have added the construction of automobile bodies to their business.

Fifteen years ago cheap factory-made business or utility wagons shipped in from other cities partially supplanted local hand-made vehicles, but there has been a gradual return of patronage to the home concerns. The decreased demand is largely attributed to the use of motor trucks for utility and hauling purposes, but some of the enterprising Baltimore wagon builders have in a measure anticipated this condition by building motor bodies and equipping their factories for repairing motor vehicles.

Of the materials used, ash lumber, largely employed in the construction of bodies, comes from Tennessee, but hickory and oak, used in building the running gears, are mostly Maryland grown. Local factories purchase their wheels ready made, 60 per cent. coming from home manufacturers. The remaining wheels used are shipped to local manufacturers knocked down from Pennsylvania points.

Tires and other iron parts are usually made at the local plants, with the exception of a few which are dropped forged and can be purchased to better advantage elsewhere. Very few horse drawn vehicles are jobbed here at the present time and they consist mostly of dump carts and farmers' wagons.

The labor situation is not favorable, there being a scarcity of skilled mechanics.

Motor and Vehicle Parts

Local manufacturers make wheels and hubs only on the order of wagon builders and jobbers, but they make and carry in stock spokes and rims. Wagon builders secure nearly all of their requirements in finished wheels from Baltimore manufacturers, which take about 33⅓ per cent. of the production. 10 per cent. of the output is exported. What little jobbing is done in wheels and parts consists largely of locally made products. A large proportion of the finished wheels sold out of the city are shipped to the South, the Middle West, and to northern states. In separate hubs, manufacturers command 90 per cent. of the local trade, and 25 per cent. of the separate spokes and rims. Axles, springs, bolts, tires, fifth-wheels, steps, and angle irons are not made here, but are carried in stock by seven jobbers of this class of wares.

Wagon bodies and running gears are all made by local wagon manufacturers.

MISCELLANEOUS

Brass and Bronze Products

Local founders make stock castings in large quantities and do general job work of every description in brass, bronze, aluminum and special metals, but the complaint is general that they do not receive the requisite local support, a large percentage of the brass work in particular being secured from other sources. One firm extensively manufactures church bells and chimes.

One concern is engaged in the manufacture of brass tubing and is fast becoming an extensive producer of this and other tubing. This manufacturer supplies about 60 per cent. of the local demand for tubing. Gas and electric fixtures are manufactured in Baltimore on a large scale, five firms making them exclusively.

Among plumbers' supplies of brass and bronze, spigots, bibs, faucets, valves, and connections are made here and carried in stock by manufacturers, and are sold largely to plumbers' supply houses. 40 per cent. of the local demand is supplied, which takes 60 per cent. of the production, the remaining 40 per cent. being sold in the North and South. Brass faucets and spigots in cheaper grades are not made here, but come largely from Pittsburgh, Pa. and Bridgeport, Conn., where they are made in very large quantities. High grade spigots are made here and carried in stock by jobbers. Local plumbers' supply houses secure brass articles other than those purchased from Baltimore manufacturers in Pittsburgh, Buffalo and Cleveland.

There are no large founders south of Baltimore making brass and bronze fittings for the plumbing and other trade, so that our manufacturers enjoy a large patronage from southern territory.

Brooms and Brushes

There are two large concerns and ten small ones engaged in the manufacture of brooms in Baltimore, three of them making whisks also. Whisks represent about 5 per cent. of the total value of manufactures. 80 per cent. of the local consumption is furnished by the manufacturers, 20 per cent. coming principally from Amsterdam, N. Y. The latter brooms are strictly high grade, the Baltimore concerns making only medium and cheaper varieties. The local trade takes about 38 per cent. of the product; 26 per cent. goes to southern states, an equal amount to New York State and New England, and 10 per cent. is exported. 60 per cent. of the product is jobbed.

Broom corn is shipped from Texas and Oklahoma to New York by water and from there re-shipped to Baltimore, entailing an additional charge of 25 cents per cwt. Manufacturers in Baltimore are therefore seriously handicapped in bidding for northern trade and contend that if direct transportation facilities

were inaugurated, this city could easily become the broom manufacturing centre of the Atlantic Seaboard.

Broom handles are not made here, the largest part of the local supply being secured from Michigan and West Virginia. Broom stitching machines are made in this city and winders are purchased from manufacturers in Philadelphia, New York, and the West.

BRUSHES—Baltimore ranks third among the cities of the country in volume and value of brushes made, five concerns being engaged in the industry. 60 per cent. of the local consumption of the general line of brushes is supplied by the manufacturers, which requires about 7 per cent. of the output. The remainder of the product is distributed 35 per cent. in the South, 35 per cent. throughout the West, and 23 per cent. in the North and East. 75 per cent. of the production is sold through jobbers.

Nearly all the camel's-hair brushes are imported. Horse and scrub brushes are not manufactured in Baltimore outside of the Maryland penitentiary. Paint and varnish brushes of all descriptions and sizes, however, are made here, in addition to a very complete line of whitewash and house or domestic brushes.

Bristles come largely from China, horse-hair from local jobbers, and Tampico grass (used for coarse brushes) from Mexico. Handles are made of maple wood and are bought in West Virginia and Pennsylvania.

The business has shown an annual growth of about 5 per cent. in the past five years.

Tin and Sheet Iron Products

The manufacture of tin cans had its inception here about forty-five years ago, the product being hand-made, but with the introduction of machinery the output increased rapidly to keep pace with the demand. Formerly skilled labor was largely required, but the proportion of this class of help has gradually decreased for the past ten years, until now 50 per cent. of the labor is unskilled. During the last twelve years the business has grown 75 per cent., the greatest increase being noted in the past five years. There are more tin cans made here than in any other city of the country, and although packers of oysters, fruits and vegetables purchase all their tin cans from Baltimore makers, they consume only about 15 per cent. of the production. 50 per cent. is sold within 200 miles of Baltimore and the remainder shipped over the country. Some cans are being exported and the foreign demand shows a gratifying increase from year to year.

Baltimore is the headquarters for the manufacture of bottle stoppers, which are produced here in large quantities. Gas meters are probably made here on a larger scale than in any other city. Two concerns manufacture a complete line of stamped kitchen ware.

Sheet tin is used in very large quantities in the manufacture of the various wares mentioned and practically all of the tin comes from the Pittsburgh district.

There appears to be quite a unanimity of opinion among the independent users of the product that this city would be an ideal location for the establishment of a large tin plate mill.

METAL CORNICE AND ROOFING—Thirty concerns are engaged in the manufacture of metal cornices and roofing, in connection with a general line of sheet iron work. Practically all sky-lights, iron shutters, doors, galvanized eaves troughs, conductor pipe, and elbows sold locally, come from the manufacturers here.

Eighty per cent. of the material used is purchased from local jobbers, and the remainder in Philadelphia and New York. The demand for tin for roofing purposes is again on the increase.

Flags, Banners and Regalia

Three concerns are engaged in the manufacture of banners, buttons and badges, and three in making regalia. In the first group, 50 per cent. of the consumption is supplied by the manufacturers, the remainder coming principally from Newark, N. J., with a small portion from scattered northern cities. The demand is equivalent to about 30 per cent. of the output, 65 per cent. being distributed over the country and 5 per cent. being exported. Banners, especially college, state and municipal pennants, are carried in stock, but buttons and badges are made only to order. Silks are purchased in Patterson, N. J., celluloid is imported, gold trimmings come from France, and brass materials from Connecticut. The local production has shown an increase within the last five years.

Regalia are manufactured to order and local concerns supply practically the entire Baltimore demand.

Fur Goods

Five concerns are engaged in the manufacture of furs for the retail and jobbers' trade. Ten other firms make furs for their own retail stores and four job raw fur skins. The local manufacturers supply about 5 per cent. of the consumption, which is equivalent to 35 per cent. of their output. The remainder is sold in Maryland, adjacent states, and the South. The five manufacturers referred to supply about 5 per cent. of the consumption, which is equivalent to 5 per cent. of their output. 60 per cent. is sold in the South, and 35 per cent. in Maryland and adjacent states. The ten retailers supply 10 per cent. of the local demand. New York jobbers and manufacturers furnish 85 per cent. of the local consumption.

At the present time there is only one firm in Baltimore jobbing furs exclusively, although up to about five years ago at least ten concerns, mostly wholesale houses, jobbed fur goods on an extensive scale. The reasons advanced for this curtailment are that a great number of southern retailers have discontinued the line owing to climatic conditions, and the present tendency of the manufacturers is to sell direct to the retail trade.

Four concerns job raw fur skins, but as none of them are finished and dressed here, Baltimore fur manufacturers are compelled to purchase the finished skins from New York. Outside of a comparatively few sets made by the manufacturing retailers, there are no high grade furs made here.

Satin used for linings is purchased from Baltimore jobbers to the extent of 25 per cent., the remainder coming from New York.

Ice and Cream Products

Eight concerns are engaged in the manufacture of ice in and around Baltimore. The demand last year was 275,000 tons, the capacity of the plants collectively being 600,000 tons. The excess capacity is occasioned by the manufacture of ice being distinctly a seasonal business, the bulk of the output being produced and consumed in a period of five and half months' duration. Most of the ice is made from city water, which is properly filtered. Very little ice is shipped out of Baltimore and but little is shipped in. Up to a few years ago, ice was brought in from Maine and other northern points, but one manufacturer has provided ample storage which has discontinued this practice. A uniform price to families has been maintained for many years, but the wholesale price has experienced violent fluctuations, sometimes going to a level that meant disaster for some of the companies. The business has shown an annual growth of 3 per cent. The labor situation is not altogether satisfactory, rates of pay having increased and efficiency decreased.

ICE CREAM—This has become quite an extensive industry, the gross value of the product having doubled in the past four years. Competition is keen among local manufacturers. Most of the product is of a high grade.

Manufacturers have built up an extensive shipping trade to points in Maryland, District of Columbia, Virginia and Delaware. The shipments last year were equivalent to 15 per cent. of the total production.

Mattresses and Spring Beds

There are no metal beds of any description manufactured in Baltimore. One concern made them on a small scale several years ago, but did not rebuild following the loss of its factory by fire. Four metal bed concerns of other cities maintain large storehouses and distribute their product, consisting of brass and enameled beds, to local merchants, at the same time taking care of the southern trade. About 85 per cent. of the local demand is supplied from these warehouses, which is equivalent to 60 per cent. of their total sales. No good reason is assigned why metal beds could not be manufactured here, as the business prospers in such localities as Jersey City, N. J., and Rome, N. Y., which are no closer than Baltimore to the source of supply for raw materials.

BED SPRINGS—Seven concerns make various kinds of bed springs in Baltimore and they supply about 85 per cent. of the demand here, the remaining 15

per cent. coming principally from Philadelphia. The local consumption takes 30 per cent. of the output, 50 per cent. goes to the Southern states, and 20 per cent. to Pennsylvania, Virginia, Maryland, and Delaware. Two-thirds of the output is sold to retailers, and one-third to jobbers. The production has increased at least 50 per cent. in the last five years.

Steel for the springs and iron for the frames come from the Pittsburgh district. There appears to be an abundance of skilled labor, which can be had at reasonable wages.

BEDDING—Seven concerns are engaged in the manufacture of mattresses, feather ticks, pillows, and bolsters, five of which make mattresses only. Local firms supply 90 per cent. of the Baltimore consumption in these lines, the remaining 10 per cent. coming from Cincinnati and New York. The local demand is equivalent to 60 per cent. of the production, 25 per cent. going South, and 15 per cent. to Maryland and southern Pennsylvania points. 20 per cent. of the output is sold to jobbers, 80 per cent. going to retailers, principally furniture dealers.

Ticking is bought largely of southern cotton mills. One local establishment making bedding, also prepares hair for mattresses and sells it to local and out-of-town manufacturers. Chicago is a keen competitor for this business and secures about 50 per cent. of the consumption.

Ninety per cent. of the pillows made here are stuffed with feathers, the rest with hair and cotton.

Millinery and Lace Goods

The manufacture of artificial flowers and feathers, which has been conducted here for twenty years, was at one time an industry of considerable magnitude. It has shown a decrease in volume during the past five years, but this condition is reflected in the industry throughout the country, the demand being generally curtailed. Baltimore manufacturers import half of the material they use as well as a large amount of the partially finished product. All other materials are bought in New York, the latter city having a monopoly of the business.

Millinery is jobbed on an extensive scale in Baltimore, the principal market being the South, although the distribution is general. The manufacturers of trimmings sell the greater portion of their wares west of Pittsburgh, only a small part to local jobbers, and practically none to milliners and retail stores.

Labor conditions are favorable, little difficulty being experienced in securing an adequate supply of help even in the busy seasons.

Embroideries have been made here for the last eighteen years, and the business is showing a steady growth from year to year. About one-third of the output is sold to local jobbers, the other two-thirds being disposed of South and West. All grades and qualities are manufactured, with medium leading. Labor conditions are favorable.

The small amount of lace manufactured locally is of the cheapest quality and barely deserves mention, being made by two local embroidery concerns as a side line.

SHIPBUILDING

With iron gradually displacing wood in the construction of vessels, the building of wooden ships in Baltimore (which thirty years ago was an extremely flourishing industry) has declined to the extent of 75 per cent., due to their construction cost having advanced to within 10 per cent. of that of iron vessels of the same capacities; but, taking into account large iron steamers and other classes of vessels which are being constantly built in the Baltimore Metropolitan District, the money value of ships of all classes built in 1913 was greater than in any previous year in the history of the industry.

At one time Baltimore built more and faster clipper ships than any other port, but at the present time local shipbuilders are confining their work largely to construction of barges, scows, floats, yachts, and tug boats. Repairs to wooden vessels are also diminishing to an appreciable extent yearly, due to the advent of iron bottoms and the consequent gradual elimination of wooden vessels as carriers. The present low freight rates do not justify large maintenance expenditures on wooden sailing vessels, but nevertheless they have to be kept in good seaworthy condition in order to secure insurance and the highest prevailing freight rates. Inasmuch, however, as wooden sailing vessels do not have to pass the crucial Government examination to which wooden steamers are subjected, it is left to the discretion of the owners as to the extent of repairs to be made. Other factors which have lessened the volume of repair work are the decreased number of ships that put into the port of Baltimore, and the consolidation of steamship lines which has brought thirty or forty vessels under one ownership. The headquarters of these lines are largely out of Baltimore and consequently most of the work is diverted to their home ports. Very few of the local yards are equipped for making heavy repairs to iron vessels.

STONE AND MONUMENT WORK

The business done by local manufacturers of these closely allied products is decreasing for reasons which are equally applicable to nearly all other cities. Some years ago marble was practically the only material used for monumental purposes, but at the present time 85 per cent. of this work is of granite. The demand for monumental granite work last year showed an increase over 1912, but the use of granite for building, paving, and curbing purposes has gradually declined. The use of concrete and terra cotta for building purposes and of concrete for paving and curbs has nearly devitalized this end of the granite business. The use of marble for exterior building purposes has also declined to an appreciable extent, but its use in interiors has increased in recent years. Domestic marble is being used more extensively, though a portion of the product for

interior purposes still comes from Italy. Indiana limestone has largely displaced marble in the construction of bases for certain classes of buildings.

Granite in its finished state can be purchased more cheaply at the source of production than the rough slabs can be cut and finished in the local yards. Marble, however, is not finished at the quarries to the extent that granite is, because the demands for variation and individuality require its local fabrication.

Umbrellas and Parasols

Baltimore ranks third among the industrial centres of the country in the production of umbrellas and parasols, Lancaster, Pa., being first and New York second.

The local business has shown a satisfactory growth during the past four years, and it is the concensus of opinion among local manufacturers that this city will occupy first place within the next few years. For some years following the inception of the industry here, the patronage came largely from the South, but now the distribution of the product is country wide, no particular section taking a greater proportionate share of the output than another. There are very few cheap umbrellas and parasols made here, medium and high grade wares predominating, which accounts in a measure for the small amount of local jobbing patronage enjoyed by the Baltimore manufacturers.

The frame material is secured from Philadelphia and Newark, N. J., silk from Patterson, N. J. and abroad, and cotton coverings from New England. Handles are bought from manufacturers in New York, Philadelphia and Lancaster, Pa., with the exception of a few of the silver variety, which are manufactured locally. Reports from the trade indicate that the demand for umbrella and cane handles would justify their manufacture here. No canes are made in Baltimore.

No jobbers in Baltimore specialize in umbrellas, parasols, and canes, handling them in conjunction with other wares. In higher grades the business does not lend itself to jobbing, due to the changes in style and the demands of fashion.

The industry being of comparatively recent origin, New York and Philadelphia enjoy the advantage of long established custom of buying these wares in those markets. Baltimore is also laboring under the handicap of scant supply of expert labor. It is asserted that a larger output would result if trained help could be readily secured.

Straw Hats

For more than a generation Baltimore has led the country in both amount and factory value of product in this industry, and at the present time the quality of hats produced here cannot be surpassed. The business has shown a remarkably healthy growth during recent years.

Manufacturers sell their product freely over the country and also find a

considerable market in Canada. Some years ago the trend of the consumption was South, but it has now become nation-wide. Only a very small percentage of the product is sold under the manufacturers' brands, the tips bearing jobbers' or retailers' names.

During the busy season the supply of skilled labor has not always been adequate, but teaching has been resorted to, with the result that labor conditions are becoming more normal. The withdrawal of one concern has had a tendency to relieve the labor situation, but local concerns are fast absorbing the surplus. About 60 per cent. of the employees are female, of whom 80 per cent. are skilled.

Most of the sweat bands come from Philadelphia, where they are produced to supply the demand of the felt hat industry. Silk bands can be imported at a considerable saving. Cotton net for linings was imported up to a few years ago, but is now being purchased in this country.

The jobbing trade is not extensively catered to because the demand is largely for lower grade hats than are made here.

MISCELLANEOUS

Baltimore ranks first among the cities of the country in the amount of copper smelted and rolled, sending the product to all markets of the world. The local consumption is comparatively small. There are nine coppersmith establishments in this city, four of whom cater to the ship or marine trade, and the remainder to the brewing and distilling interests. 85 per cent. of the local demand is supplied by the above concerns, and 60 per cent. of the copper used is purchased in this market. These concerns make but a very little of the copper tubing, purchasing 40 per cent. of a Baltimore manufacturer.

Three concerns are engaged in the manufacture of chewing gum, two of them making chicle gum. About 10 per cent. of the gum consumed locally is made by home manufacturers, which takes 5 per cent. of their output; 50 per cent. goes to the South, and 45 per cent. is distributed in the territory east of the Mississippi River. The product is disposed of chiefly to jobbers, only 20 per cent. being sold to retailers direct. New York and Chicago are strong competitors for the local business, supplying the remainder of the consumption. Chicle is imported from Mexico. Wrappers, carton containers and shipping boxes are obtained locally.

One concern manufactures clasps and buckles for trousers, steel buttons, and snap fasteners for gloves and pocket books. Practically the entire local demand is supplied by this manufacturer through jobbers, being equal to 5 per cent. of the production. 95 per cent. is disposed of in principal trade centres. Steel and brass used are obtained from the Pittsburgh district and Connecticut, respectively.

Of three concerns manufacturing toys and games, one makes toy horses, another game boards, and the third a line of parlor pool tables and collapsible

kites. 20 per cent. of the product is sold locally, taking care of 15 per cent. of the demand. 80 per cent. of these manufactures is sold throughout the country.

One concern makes soda fountains and fixtures. 60 per cent. of the local consumption is supplied, which is equivalent to two-thirds of the output, the other third being distributed in the eastern section of the country. Chicago, Philadelphia, and Boston firms supply the remainder of the local demand. Marble is purchased of local jobbers and metal parts are all made by the concern itself, which also does its own silver and nickel plating.

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VALUE OF MERCHANDISE DISPOSED OF THROUGH RETAIL MERCHANTS

CALENDAR YEAR ENDING DECEMBER 31, 1913

REFERENCE No.	CHARACTER OF ESTABLISHMENT	NUMBER OF STORES	TOTAL SALES	PURCHASES—In Per Cent LOCAL Mfg.	PURCHASES—In Per Cent LOCAL Jobbers	PURCHASES—In Per Cent OUTSIDE Mfg.	PURCHASES—In Per Cent OUTSIDE Jobbers	ARTICLES BOUGHT IN BALTIMORE	REMARKS
1	Art Stores	18	$ 355,119	3%	1%	75%	21%	Picture frames from manufacturers. Glass from jobbers.	See Page 54
2	Bakeries—Cakes and Crackers	412	5,433,528	90%	5%	2%	3%	Buy practically everything here.	See Page 54
3	Boots and Shoes	216	5,042,851	5%	24%	58%	13%	Women's and children's shoes from manufacturers. Men's shoes from jobbers.	See Page 54
4	Candy and Confectionery	175	2,195,960	60%	23%	17%	----	General line from manufacturers. Box goods from jobbers.	See Page 54
5	China, Glass, Tin, and Wooden Ware	8	801,246	16%	28%	40%	16%	Crockery, tin and enameled ware from manufacturers. China and wooden ware from jobbers.	See Page 54
6	Cigar Stores	514	5,411,238	30%	65%	4%	1%	Cigars from manufacturers. General line from jobbers.	See Page 54
7	Clothing Stores	124	10,588,245	25%	10%	40%	25%	Men's clothing from manufacturers. Boys' clothing from jobbers.	See Page 55
8	Drug Stores	347	4,501,222	20%	30%	25%	25%	General lines except specific chemicals from manufacturers and jobbers.	See Page 55
9	Dry Goods and Notions	167	9,328,244	1%	9%	60%	30%	Domestic and general line of notions, woolen goods, silks, and linings from jobbers.	See Page 55
10	Feed Stores	94	3,760,356	----	60%	----	40%	General lines.	See Page 55
11	Fur Goods	10	951,587	2%	----	25%	73%	Cheap fur sets, mainly children's.	See Page 55
12	Furniture Stores	89	10,572,075	20%	15%	50%	15%	Mattresses, springs, and upholstered furniture from manufacturers. Brass and enameled beds from jobbers.	See Page 55
13	Gents' Furnishings	96	5,420,097	10%	15%	40%	35%	Neckwear and underwear from manufacturers. Hosiery, knit underwear, and collars from jobbers.	See Page 56
14	Grocery Stores	1,500	9,211,148	3%	65%	20%	12%	General lines.	See Page 57
15	Hardware	92	3,219,456	----	15%	60%	25%	General lines.	See Page 57
16	Hats and Caps	48	2,109,081	25%	5%	65%	5%	Straw hats, stiff and soft felt hats, and caps from manufacturers and jobbers.	See Page 58
17	Jewelry and Optical Goods	40	4,751,203	1%	6%	78%	15%	Lenses mainly from manufacturers, cheap jewelry from jobbers.	See Page 58
18	Ladies' Apparel	51	14,972,798	10%	4%	50%	36%	Cheap and medium priced suits and skirts, waists and muslin underwear.	See Page 58
19	Leather Goods—Saddlery	41	681,482	10%	30%	40%	20%	Harness and saddlery from manufacturers. Traveling requisites and fancy articles from jobbers.	See Page 59
20	Lighting Fixtures	11	436,236	50%	40%	10%	----	General line from manufacturers. Patented and special articles from jobbers.	See Page 59
21	Machinery and Supplies	6	481,258	5%	15%	65%	15%	Bolts, nuts, and belting from manufacturers. Pick-ups and rubber fittings from jobbers.	See Page 59
22	Meat Stores	122	17,404,000	47%	53%	----	----	General line of meats and provisions.	See Page 59
23	Millinery and Lace Goods	65	5,966,904	1%	15%	70%	14%	Hats and trimmings, flowers and foliage.	See Page 59
24	Paints, Oil, and Glass	100	2,680,947	22%	8%	60%	10%	Ready mixed paints, colors in oil, and varnish from manufacturers. Glass, turpentine, and oil from jobbers.	See Page 60
25	Pianos and Musical Instruments	17	1,221,453	20%	----	70%	10%	Pianos, guitars, mandolins, and violins from manufacturers.	See Page 60
26	Plumbing Establishments	400	2,611,139	15%	72%	10%	3%	Enameled ware and lead traps from manufacturers. General lines from jobbers.	See Page 60
27	Sporting Goods	8	955,307	2%	1%	83%	14%	Dog collars and fishing tackle from manufacturers Tennis shoes and shot from jobbers.	See Page 60
28	Stationery and Books	14	745,116	1%	10%	70%	19%	General line office supplies and a little stationery from jobbers.	See Page 61
29	Stoves and Appliances	16	541,234	50%	30%	20%	----	Coal and gas ranges and hot air furnaces from manufacturers. Other furnaces from jobbers.	See Page 61
30	Teas, Coffee, and Spices	35	4,502,108	2%	35%	40%	23%	Spices from manufacturers. Teas and coffee from jobbers.	See Page 61
31	Wall Paper	29	589,234	----	50%	30%	20%	General line.	See Page 61
32	Miscellaneous:								
	Rubber Goods	6	581,689	----	50%	45%	5%	Rubber shoes and general line except raincoats from jobbers.	
	Photographic Materials	8	241,604	1%	9%	80%	10%	Acetic acid and sulphide of soda from manufacturers. Photo paper and pick-ups from jobbers.	See Page 61
	Oriental Specialties	13	534,897	2%	13%	70%	15%	Laces and hand-made art embroideries from manufacturers. Bric-a-brac from jobbers.	
	Total and Average	4,892	$138,800,062	19%	27%	36%	18%		

RETAIL STORES

The retail stores of Baltimore and vicinity were systematically canvassed to ascertain (1) the volume of business transacted in 1913 (provision having been made for enumeration of various wares dealt in), (2) what proportion of this merchandise was purchased locally and out of the city, respectively, either from jobbers or manufacturers, and (3) specific reasons for the future guidance of the wholesale trade as to why more of this business could not be diverted to local channels.

DEPARTMENT STORES—Owners and managers, in their general instructions to buyers of the various departments, have always included a strong recommendation that Baltimore manufacturers be given the preference where no advantage is apparent in purchasing out of the city. In practice, however, many of the buyers do not always heed this suggestion owing to the extenuating circumstances cited below surrounding their employment. Since buyers are not trained here they must of necessity be procured from other cities, principally New York and Philadelphia; as a result they have but a limited knowledge of the local industrial situation, and consequently show a preference to trade in markets with which they are thoroughly familiar.

The apparent attitude assumed by the local manufacturers, that inasmuch as they are located in Baltimore they should receive first consideration, has resulted in a policy which lacks enterprise, initiative, and persistency, so far as soliciting the department store trade is concerned, and is not on a par with the progressive methods of other cities. If Baltimore manufacturers will study the needs of department stores and produce the kind and quality of wares required, they will experience no difficulty in competing with outside manufacturers for a larger share of this patronage.

The following corroborated comments, which form the concensus of opinion of the retail merchants co-operating with the Industrial Survey, are given verbatim without any investigation as to their authenticity, this feature being left solely to the trade affected to affirm or disapprove.

The inference to be drawn, however, from the mass of information secured is that the retail merchants as a class are not reliably informed with respect to, or conversant with, the local industries manufacturing the wares traded in respectively by them, to venture a statement of sufficient weight to merit more than casual consideration.

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ART STORES—Local manufacturers secure 25 per cent. of the requirements in frames, largely in cheaper grades. Mat board is procured in Philadelphia and bric-a-brac is mostly imported. Etchings, engravings, oil and water color paintings are not produced in Baltimore to any extent.

BAKERIES—Cake and Crackers—The articles of consumption supplied by outside manufacturers and jobbers consist largely of food products put up in cartons under well-known brands.

BOOTS and SHOES—Shoe stores may be divided into three groups: Exclusive dealers purchasing their wares in the open market; factory-controlled stores handling one particular make of shoes; and shoe departments of large department stores.

The local patronage comes almost entirely from the first group and is mainly in women's shoes of a high grade. Children's and infants' shoes are purchased locally only to the extent of 5 per cent. Department stores as a general rule confine their purchases to ladies' shoes that are nationally advertised.

TRADE COMMENTS:

Outside Manufacturers	Offer better terms. Carry larger stocks of novelties. Carry full lines of merchandise greater part of season, affording retailer an opportunity to fill in. Make better goods for same price. Style of shoes better.

Baltimore firms canvass the trade. Retail merchants are compelled to buy higher grades in men's and boys' shoes from Boston, as there are no factories here making them. Baltimore jobbers and manufacturers are afraid to carry a little surplus stock over.

CANDY and CONFECTIONERY—Retail stores may be grouped as those having exclusive candy shops (embracing the market stalls) which make practically all the candy they sell; drug and department stores, selling candy largely in boxes; and grocery, cigar, and notion stores selling mainly penny goods.

Seventy-five per cent. of the candy consumed is manufactured here, the remaining 25 per cent. being box goods secured from outside manufacturers who enjoy a national reputation, and some very cheap grades of candy secured principally from New York.

CHINA, GLASS, TIN and WOODEN WARE—Household Specialties—Local manufacturers are securing a fair share of this business, so far as their limited lines will permit.

CIGAR STORES—Local manufacturers and jobbers are getting a large share of this business.

CLOTHING STORES—Local manufacturers secure a fair share of patronage on high and medium grade garments, New York controlling the trade on cheap clothing. In boys' clothing, however, retail merchants purchase only a small amount of their requirements locally, as no variety is made here. Boys' suits and overcoats are bought in New York and Boston in equal quantities, and wash suits are purchased in New York almost exclusively.

TRADE COMMENTS:

Purchase children's clothing in New York because there is only a small amount made in our city.

DRUG STORES—While most of the drug stores are conducted on independent lines, about one-fifth have united for the purpose of purchasing their wares to advantage, and there are several other groups conducted under one management, which in no case includes more than three establishments.

Local manufacturers secure the preference on standard medicinal preparations, and jobbers on toilet articles, chemical and proprietary preparations, patent medicines, and rubber goods.

Candy, cigars, tobacco, soda, and miscellaneous articles, which constitute one-third of the business, are purchased largely of local jobbers and outside manufacturers and jobbers.

DRY GOODS and NOTIONS—Local jobbers secure the principal business of small neighborhood dry goods and notion stores. The more pretentious establishments (other than large department stores) located in the business sections, also buy largely of jobbers, but are periodically solicited by salesmen of New York and Philadelphia jobbers.

FEED STORES—Small retailers show a preference to trade with the local jobbers where no advantage is apparent in purchasing out of the city. Some of the larger retailers, however, purchase their supplies direct in carload lots.

FUR GOODS—

TRADE COMMENTS:

There are no local manufacturers worthy of consideration and if any start they are handicapped by lack of skilled workmen in this locality.

As a rule they are speculators in the skin market and their business is subject to all the vicissitudes of speculative markets in which skins may fluctuate as much as 75 per cent.

Only inferior grades of skins can be bought here from farmers of the South.

No mechanics and labor peculiar to this trade are to be had in the city.

FURNITURE STORES—The stock of a typical furniture store may be apportioned as follows: Furniture, upholstered and plain, 60 per cent.; floor coverings and draperies, 30 per cent.; mattresses, springs, and metallic beds, 8 per cent; and crockery and pottery, 2 per cent. Local manufacturers secure one-third of the local patronage on upholstered furniture and 25 per cent. on leather furniture, with a small percentage on plain furniture, collectively equivalent to

10 per cent. of the total requirements; Michigan, Illinois, and New York supply the remainder of consumption of high and medium grades, and North and South Carolina the cheap and low grades. Dealers carry only samples of mattresses and a small stock of springs, Baltimore manufacturers taking care of 90 per cent. of the requirements. No floor coverings or draperies are made here, but are purchased largely from the mills direct or through New York jobbers, local jobbers securing only a small share of this patronage. All refrigerators are shipped in; brass and enameled beds are secured from selling agencies of outside manufacturers.

TRADE COMMENTS:

There should be a larger variety of designs.

Only two or three manufacturers in Baltimore make kind of furniture needed.

Goods shipped in principally of a higher grade and we have no manufacturers making similar wares.

No factories make carpets, lace curtains, or portieres.

No expensive china made here.

Local houses canvass trade thoroughly, but local jobbers handling side lines such as blankets, comforts, spreads, lace curtains, portieres, cheese cloth, etc., seldom ever canvass the furniture trade.

We lack variety of patterns and number of manufacturers.

All out-of-town goods are sold f. o. b. Baltimore.

No manufacturers in this city of any importance.

Local manufacturers make medium and low grades only; must go elsewhere for better grades.

GENTS' FURNISHINGS—The retail stores may be designated as those handling gents' furnishings exclusively, in conjunction with clothing, and neighborhood shops. A typical stock consists of one-third shirts and collars, an equal amount of underwear and hosiery, the remainder of neckwear, gloves, garters, jewelry, robes, handkerchiefs, belts, pajamas, night shirts, canes, umbrellas, etc. Purchases of Baltimore manufacturers consist largely of neckwear and medium grades of summer underwear, and a few cheap shirts.

TRADE COMMENTS:

Outside Manufacturers	Show a larger assortment.
	Do more advertising.
	Have more varied lines and better values.
	Have a new leader which our Baltimore manufacturers do not take advantage of.
	Have goods not manufactured here, such as shirts and collars.
	Have a grade of goods not made here.
	Give better values in shirts and seem to know what we want. Also have larger assortments.
	Specialize strongly on price.

In some lines, such as suspenders, we have no first-class manufacturer in the city.

If some of our local houses would be a little more alive and assume the initiative, they would reap a great deal of benefit.

There is very little canvassing among the small retailers.

Jobbers should carry larger stocks.

Local firms don't make any effort to get the business and besides they don't have the goods out-of-town houses have.

Hosiery and knit goods we buy from the mills in large quantities at a lower price.

The Baltimore jobbers seem to canvass the local trade after the New York houses have gotten all the orders.

The local jobbers do not seem to put themselves in competition with New York jobbers.

We have goods ordered from two to three months before the local jobbers canvass us.

GROCERS—With the possible exception of coffee, tea and sugar stores, and a small group of grocery stores conducted under one management Baltimore is free from the chain-store system of dispensing groceries to the consumer.

Twenty-five per cent. of the groceries retailed are purchased through jobbers, of local manufacturers, and consist largely of canned foods.

TRADE COMMENTS:

Local jobbers and manufacturers' agents do not carry sufficiently large stocks to make prompt deliveries.

There is sufficient demand in Baltimore and adjacent territory to warrant the establishment of a condensed milk factory. There is also room for a paper bag factory to make special qualities and sizes of paper bags which the one local concern does not supply.

HARDWARE STORES—The only items made in this city which go to make up a retailer's stock of hardware are sash weights, door hangers, and tacks. Most of the large retailers purchase their supplies from outside manufacturers direct, excepting wire and cut nails, bars, and shapes, which are bought generally from Baltimore jobbers. Small retailers purchase practically everything of local jobbers.

TRADE COMMENTS:

Outside Manufacturers	Have the goods. Canvass the trade more thoroughly. Make better terms. Advertise more extensively. Have price and variety.

Local people do not canvass trade.

Prefer to deal with Baltimore jobbers but cannot do so exclusively, as they do not carry the stocks.

Local people are too conservative.

Local firms do not give a spot cash buyer a better price than the time man. Should adopt spot cash catalogue system.

Practically no hardware manufactured in Baltimore. Iron bolts, tacks, and a popular make of door hangers sum it up.

Buy from outside manufacturers instead of local jobbers from motives of economy only.

In some cases outside jobbers buy goods of our manufacturers and sell them here cheaper than they are offered locally.

HATS and CAPS—Local manufacturers and jobbers are getting a good share of this business, especially in straw hats. Local purchases of stiff and soft felt hats are necessarily confined to one manufacturer. Manufacturers of caps in medium grades also secure a fair share of the local patronage.

Philadelphia and Connecticut points supply about 85 per cent. of the local requirements of felt hats.

JEWELRY and OPTICAL GOODS—

TRADE COMMENTS:

Manufacturing not developed to a point to command the confidence of the trade.

Baltimore jobbers canvass the trade.

Retail jeweler is compelled to buy from jobbers, as he cannot buy from manufacturers direct.

There is no jewelry manufactured in Baltimore to sell to the retail jeweler except what is sold by manufacturers to consumers direct.

Some years ago several factories which made gold rings and sold them largely in the South and West moved to New York to be nearer to the jewelry centre of the United States.

We do not have any manufacturing jewelers of note.

We do not have a single jewelry manufacturer that can supply the goods the average jeweler sells.

We have one good manufacturer of optical goods and there is room for others.

There is not one manufacturer in Baltimore that produces plain silverware to sell direct to the retail jeweler.

No clocks of any consequence are made in Baltimore.

No exclusive jewelry manufacturer in Baltimore to canvass the jewelry trade.

LADIES APPAREL—

TRADE COMMENTS:

Outside Manufacturers	Have larger and better selections and designs. Have higher grade at same price. Possess snap and style—lacking in Baltimore. Offer better terms.

Local firms canvass the trade to a certain degree only, which covers their limited lines.

It seems that our Baltimore manufacturing concerns cater more for cross roads' trade in the Southern states in our line, because competition does not seem to be so keen, and hence they secure better prices than in our city.

Principal amount of goods that we carry cannot be bought in Baltimore.

Variety and assortment of styles are scarce here.

They are not alert.

There is no doubt we could buy more goods from local people if we were aware of the merchandise they carry.

LEATHER GOODS and SADDLERY—

TRADE COMMENTS:

Outside Manufacturers	Sell harness for less money than Baltimore manufacturers. Sell harness of better grade, with considerable saving in price, freight and handling charges added. Pay freight charges on trunks, bags, etc.

No pocket books made here.

As to trunks, there are no large factories here.

Do not know why Baltimore manufacturers cannot compete with outside concerns, but they do not.

Do not canvass city trade.

A probable reason why Baltimore jobbers and manufacturers in harness and saddlery do not canvass city trade is that they also sell at retail. The trade have to buy their goods sufficiently low to compete with them.

LIGHTING FIXTURES—Manufacturers maintain retail establishments in which they sell goods of their own manufacture in conjunction with patented articles purchased in other markets.

MACHINERY and SUPPLIES—Many of the jobbers sell also at retail.

MEAT STORES—This classification includes meats and provisions disposed of collectively by retail butchers and local sales reported by manufacturers and jobbers.

MILLINERY and LACE GOODS—The trade may be divided into three classes: Exclusive milliners who handle only high grade wares and import most of their goods; millinery departments of large department stores; and small neighborhood millinery stores. The department stores purchase about 5 per cent. of feathers, flowers, velvets, and ribbons from manufacturers and jobbers here. Neighborhood milliners purchase practically their entire requirements from local jobbers.

TRADE COMMENTS:

Outside Manufacturers	Sell cheaper for same grade. Have greater variety to choose from. Have novelties and new ideas, being ahead of our jobbers, who are too conservative.

New York is better advertised.

Local wholesalers canvass the trade thoroughly.

PAINTS, OILS and GLASS—Paint stores as a rule handle hardware and cutlery either in conjunction or as half of their business. 80 per cent. of the ready mixed paints sold by retail stores is purchased of Baltimore manufacturers. Jobbers secure the requirements of dry colors, varnishes, stains, fillers, turpentine and linseed oil. 50 per cent. of the paint, varnish, and other brushes are purchased of local manufacturers, with a small percentage from local jobbers.

TRADE COMMENTS:

Outside Manufacturers:
- Offer very attractive inducements to merchants.
- Show courtesy, offer long terms, drum constantly, and have odd goods.
- Make a specialty of certain preparations and spare no expense in advertising same in all the magazines, flooding the merchants with expensive literature and making live demonstrations to place these preparations before the public, thereby creating a demand for their wares.

Lack of visitation to the trade on the part of local firms; there seems to be no interest.

They do canvass but they have not got the price.

Products of similar kind are as good here but outsiders manufacture specialties.

They do canvass the trade, except on specialties not made here, which we have to buy direct from the manufacturer.

PIANOS and MUSICAL INSTRUMENTS—The local manufacturers secure a fair share of the local business. The manufacture of musical instruments other than pianos has not been extensively developed in Baltimore.

PLUMBING ESTABLISHMENTS—Steam and hot water furnaces, heaters, and boilers are purchased from selling agencies of outside manufacturers or direct. In other wares local jobbers control the situation.

SPORTING GOODS—Outside manufacturers and jobbers secure the bulk of this business. About 7 per cent. of the local trade is supplied by Baltimore jobbers, who handle this line to a limited extent only in conjunction with other wares. Baltimore manufacturers secure the trade on dog collars, leads, sweaters, harness, baskets and crates, which are admitted to be of as good quality as found in any market.

TRADE COMMENTS:

Baltimore needs an exclusive jobber of sporting goods, as there is ample opportunity to not only supply part of the local demand, which is now taken care of as an entirety by New York jobbers, but secure a portion of the near-by and southern patronage.

STATIONERY and BOOKS—Of the fourteen stationers, two may be termed society stationers. Four of these also handle office furniture of wood, and steel files, on a large scale. Stocks of commercial stationery stores are represented 40 per cent. by files and office furniture, none of which is made in Baltimore; 30 per cent. loose-leaf books and devices, purchased largely in New York; 10 per cent. leather goods and novelties, purchased in New York and Philadelphia; 10 per cent. pencils, pens, fountain pens, inks, mucilage, stationery hardware, and glassware; 10 per cent. paper, envelopes, and miscellaneous articles. Local jobbers enjoy a fair patronage on paper, and the one manufacturer on envelopes. Most of the stationers are equipped to do printing also.

TRADE COMMENTS:

Outside Manufacturers:
- Get the business—expense minimized by quantity.
- Offer better terms.
- Advertise more extensively.

Local firms lack energy and are too conservative. There is no publishing house of any consequence in Baltimore.

STOVES and APPLIANCES—The retail coal stove business has suffered a considerable decline in the last ten years, as a consequence of which the number of stores has been commensurately reduced. This is attributed to the "Latrobe" and other makes of heating stoves (which were in demand some years ago) having been replaced by furnaces handled by plumbers rather than by retail stove dealers, and the substitution of gas for coal ranges in homes.

Retail dealers purchase 50 per cent. of their requirements of local concerns, securing the remainder from New York and Pennsylvania foundries. Through this arrangement they are enabled to carry a larger assortment and in specific cases secure the exclusive agency of outside manufacturers.

TEAS, COFFEE and SPICES—Stores making a specialty of these food products are operated under the chain system. One or two exceptions were noted in the canvass of the trade.

WALL PAPER—

TRADE COMMENTS:

No factory in Baltimore.

Outsiders sell on more advantageous terms than jobbers.

MISCELLANEOUS—Includes stores handling photographic materials, Oriental silks and laces, rubber goods of all descriptions, gloves, etc.

TRADE COMMENTS:

Photographic Materials—Only two manufacturers of complete line in United States. These two firms make four-fifths of the film and photo materials used in the world.

COMMISSION BUSINESS

Commission merchants dealing exclusively in perishable foodstuffs may be commercially distinguished, in order of their importance, as those trading in (1) domestic fruits and produce, (2) butter, eggs and poultry, (3) citrus, deciduous and other fruits, (4) bananas, and (5) game, fish and crabs.

The business done by commission merchants of the first class is an item of considerable magnitude in the commerce of Baltimore. Collectively there are 135 firms and individuals engaged in the wholesale trade whose sales for 1913 totalled $24,986,112, of which 25 per cent. was sold locally and 75 per cent. shipped to points in Virginia, West Virginia, Pennsylvania, New York, Ohio and Canada. Territory adjacent to Baltimore—which includes the Eastern Shore of Maryland—supplied 60 per cent. of the produce traded in, and Southern states furnished the early season's demand, which was equivalent to 40 per cent. Domestic fruits grown within a narrow radius of Baltimore constituted 75 per cent. of the amount handled, Georgia having furnished the greater portion of the remainder.

Butter, eggs and poultry are dealt in by twenty-eight firms, a number of them specializing in butter and eggs, or in poultry; others also handling cheese in conjunction. The business reported amounts in the aggregate to $8,551,264, 75 per cent. of the products being disposed of in Baltimore and territory immediately adjacent thereto, the other 25 per cent. being shipped largely to New York City and Philadelphia. The source of supply has a wide range, extending from Chicago to the Atlantic Coast.

Deciduous and citrus fruits from California and the Northwest are extensively dealt in locally, as are also citrus, but not deciduous, fruits from Florida. The following table gives the principal sources of supply and the value of deciduous, citrus and other fruits sold through eleven Baltimore dealers last year:

	Total Sales	Local Sales
California—Deciduous and citrus	$930,000	$810,000
Florida—Citrus	700,000	455,000
Sicily—Lemons	550,000	195,000
Havana and Porto Rico—Pineapples	225,000	203,000
Jamaica—Cocoanuts	300,000	95,000

The range of territory in which these products are marketed includes Maryland, West Virginia, Pennsylvania, and District of Columbia for the first four items; the Middle West and Southern states for the last item.

Particularly noteworthy is the fact that the sale of California fruits in 1913 predominated over the Florida products, which was due to the crops in the latter state having suffered from severe frosts in the early spring.

Baltimore has the reputation of being one of the principal banana importing centres on the Atlantic Seaboard, and the three firms engaged solely in the trade show aggregate sales for 1913 of $3,412,267, distributed about as follows: 25 per cent. locally, divided between jobbers and retailers; 75 per cent. to points west as far as Chicago, north as far as Canada, and to the states of Virginia and North Carolina.

The introduction of fast freight shipments in refrigerator cars from the Atlantic Seaboard inland has appreciably curtailed the wholesale fish business of Baltimore. The thirty-one firms engaged in the trade report aggregate sales for the year 1913 of $1,847,989, distribution having been 50 per cent. local and 50 per cent. to points of the Middle West. Crabs represented 20 per cent. of the volume of business done. Diamond-back terrapins, the money value of which heretofore was considerable, have almost entirely disappeared from the waters of the Chesapeake Bay and constituted only 1 per cent. of the total sales. 75 per cent. of the products handled are shipped in by water, and 25 per cent. by rail from points along the Atlantic Coast from Maine to Florida and from the Great Lakes.

Almost every branch of the commission business is showing a uniformly steady and healthy growth from year to year. The number of firms also is increasing with the result that new markets are continually being developed.

THE PORT OF BALTIMORE

No effort was directed toward ascertaining the Exports and Imports through Baltimore, as statistical information of this character is periodically compiled under the supervision of the Government. A semi-official inquiry was likewise inaugurated by the United States Engineer's Office to determine the water-borne traffic of the Chesapeake Bay, the result of which is also a matter of public record.

However, it is not amiss in this connection to mention the activities of the Baltimore Chamber of Commerce as relating specifically to the industrial development of Baltimore. Ninety-five per cent of the grain, hay and other agricultural products exported, consumed locally, and distributed in the territory adjacent to Baltimore, is purchased of and through members of the Chamber of Commerce. The interests represented in the Chamber of Commerce likewise practically uphold the regular sailings of the several ocean lines from Baltimore and in addition, are responsible for bringing here a large fleet of tramp steamers, thus not only noticeably increasing our foreign commerce, but resulting in annual disbursements of ocean lines for labor, fuel and supplies conservatively estimated at about $1,000,000.

The following comparative tabulation displays the activities of the Chamber of Commerce for the calendar years 1911, 1912 and 1913:

RECEIPTS OF GRAIN FOR THE FOLLOWING YEARS.

Years	Wheat bus.	Corn bus.	Oats bus.	Rye bus.	Barley bus.	Malt bus.	Clover and Timothy Seed bus.	Total bus.
1913	28,469,370	21,308,087	5,791,129	1,580,657	150,572	800,525	....	58,100,340
1912	12,488,385	13,197,593	17,481,271	579,588	197,867	678,989	66,408	44,600,201
1911	11,088,586	14,482,742	3,170,477	666,258	30,487	636,221	41,728	30,116,499

EXPORTS OF GRAIN FOR THE FOLLOWING YEARS.

Years	Wheat bus.	Corn bus.	Oats bus.	Rye bus.	Barley bus.	Clover and Timothy Seed bus.	Total bus.
1913	26,040,161	18,275,542	1,726,514	686,801	128,863	....	46,857,881
1912	9,793,459	9,773,379	14,034,282	....	176,201	7,058	33,784,379
1911	8,980,841	11,382,548	2,206	....	....	2,797	20,358,392

While in specific items considerable fluctuation is noted, the total bushels of all agricultural products dealt in show a gratifying increase, a condition which

is attributed solely to the methods in vogue as regards weighing and inspection. These departments have been established many years and they have the entire confidence of the western grain shipper as well as the foreign buyer. The employees hold their positions through merit, some of them having attained a continuous service of upwards of thirty years, which insures to the western shipper and foreign buyer equitable inspection and absolutely correct weights.

The export business of the Chamber of Commerce in 1913 yielded $40,000,000 of foreign exchange.

HOUSING OF LABOR

Particularly noteworthy in connection with the local industrial situation is the building and loan association feature, which has materially assisted deserving workmen and laborers to acquire their own homes on a plan that does not subject them to undue hardship. That advantage is being taken of the opportunity thus afforded is evidenced by the large number of purchase money mortgages of this character which are daily placed on record. Baltimore supports 450 building and loan associations, some of which are conducted on strictly mutual plans and are frequently referred to as "the poor man's friend."

The extensive development of this building and loan association plan has resulted in making Baltimore a city of homes largely owned by their occupants, a feature which is especially pronounced here, more so than in any other city in the country. Of the 135,000 pieces of improved real estate in Baltimore, 90,000 are dwelling houses, 60 per cent. of the tenants of which own their homes outright or are paying for them through building associations—a situation peculiar to Baltimore and which far exceeds the average that obtains in other cities.

The two-story brick house with marble steps characterizes recent construction, and the demand for this class of homes continues uniformly strong. The prices range from $1,250 to $2,000, subject to a redeemable ground rent. The usual cash payment exacted by the seller is from $100 to $250 and the building association arranges for the remainder, to be repaid in weekly or monthly installments extending over a period of about seven or eight years. Cases are on record, however, where industrious workmen whose habits and environment were ascertained to be above reproach, were able to take title to a home on a payment of $25.00 cash, the subsequent weekly installments being based on the principal of the mortgage. These installments are so arranged as to provide simultaneously for partial liquidation of principal and payment of ground rent, insurance, taxes, water rent, and in specific cases maintenance repairs.

The average building association loan is $800 and the number of loans made by each association about 40 per annum, a total of 18,000 transactions, representing a monetary consideration of $14,400,000. The combined assets of these associations are $48,000,000.

From a review of the domestic and economic conditions prevailing in Baltimore, the conclusion to be drawn is that the possibility for labor troubles is far removed, and that strikes are not likely to occur in a city where a majority of its wage earners have obligated themselves to pay stipulated amounts weekly on homes in which they already own a large equity, as default in these payments would necessarily subject them to added distress, inconvenience and financial loss.

TAXATION

AND ITS RELATION TO INDUSTRIAL DEVELOPMENT

It has often been questioned, and with apparent propriety, whether entirely too much stress has not been laid on the element of taxation in the exploitation by communities of advantages and inducements to attract manufacturing enterprises.

Paramount and of more vital importance are the factors of: RAW MATERIAL—proximity to and abundance of; TRANSPORTATION—rail and water; MARKET—competition encountered and centre of distribution; LABOR—availability, character of, environment, social, domestic and economic conditions of the community; CAPITAL REQUIREMENTS—banking facilities, cost of site, building regulations, fire protection and insurance rates, cost of power and fuel. In view of these important features, taxes are a secondary consideration, especially the taxes on tools, implements and machinery, which are relatively small compared with the amount of capital invested and the volume of business transacted. In purely mercantile enterprises, the item of taxes assumes greater importance.

As a concrete example of the insignificance from a successful manufacturers' standpoint of tax exemption on tools, implements and machinery, for sake of illustration, a corporation with a capital stock of $100,000, fully paid in, is considered. The plant is erected and equipped for manufacture. Tools, implements and machinery represent $40,000 of the aggregate cost, and on their depreciated value will be levied a state and city tax of approximately $750.00. A prosperous corporation will not consider this an item of great importance in its manufacturing costs, nor could an otherwise unsuccessful corporation continue to exist solely on the elimination of this particular taxation feature. However, to meet the popular clamor of business interests, a number of cities and states have exempted tools, implements and machinery of manufacturers from taxation, and Maryland by a recent act of legislature has been placed in their category.

Sites are not donated nor plants exempted from taxation for stated periods by acts of municipalities or state governments, but an equivalent result is accomplished in specific cases through private interests assuming this burden, seeking thereby to overcome other unfavorable features which must of necessity be offset to make the proposition of location appear attractive. Baltimore business men have not in the past and are not now required to resort to such extreme measures to attract industries.

In order that a clear and concise construction may be had of the Tax Laws of Maryland, the Survey has arranged to have the subject thoughtfully and exhaustively treated in subsequent pages.

TAXATION IN MARYLAND

WITH A DISCUSSION OF THE CHANGES MADE IN 1914

ALLAN C. GIRDWOOD
Secretary of the State Tax Commission of Maryland

Probably no state within recent years has made as great advance in tax legislation as has Maryland at the session of its legislature of 1914.

The policy of enacting laws heretofore has been one of patchwork legislation rather than the creation of a well ordered system, with the result that our tax laws have been in a rather chaotic condition regarding substantive provisions as well as administrative rules. It is owing to the investigation and report of a special commission on the revision of the taxation system (appointed by Governor Goldsborough under the provisions of an act passed at the previous session) composed of a few of the leading citizens of the state, who were engaged in different activities, and who unselfishly devoted their energies to the study, that much of the remedial legislation is due.

Maryland has resorted for years to the imposition of a direct property tax for state purposes, which has varied from 1.6 mills (or 16 cents on $100) to 3.2⅓ mills. "The State Tax," however, until the beginning of the extensive movement of good roads, has always been levied for the special purposes of school maintenance and the payment of interest and sinking fund charges on state loans.

The rate as compared with that in many states was low, and the base on which it was levied was small.

In 1890 the assessed valuation of real and personal property for state purposes was $482,184,824; in 1910 this had been increased to $836,665,067. The per capita assessment in 1890 was $462.74, and in 1910 it was $646.35. Of the change in assessed valuation between these periods Baltimore City alone added $235,585,434, while in the rest of the state the increase was $118,894,809.

The general governmental expenses of Maryland are paid from taxes derived from indirect sources. The largest return from indirect sources is the tax on the gross receipts of public service corporations, which amounts approximately to one-sixth of the total revenue used for the expenses of the government, other than interest and sinking fund requirements. Another large source of indirect revenue return arises from the collateral inheritance tax, which is levied at the rate of 5 per cent. on all estates over $500. There is no direct inheritance tax

in Maryland, an effort to pass such an act being defeated in the last legislature. Still another source of considerable state revenue is license charges which assume many forms and are applied in various ways. Traders' licenses yield a considerable amount. These are based on the amount of stock in trade of persons or corporations at the principal season of the year, the rates varying from $6 on $500 (or less) of stock to $150 on $40,000 (or over). There has been some agitation against the traders' license on the plea that it has outlived its usefulness and that the levy works a hardship against Maryland merchants in competition with merchants of adjoining communities where there is no such charge. The charge is small and it is doubtful if any particular harm results. It must be borne in mind in this connection that the personal property of the merchant is also subject to assessment. Book accounts, however, are exempt.

The assessment of real and personal property throughout the state, other than that located in Baltimore, has heretofore been regulated more or less by the legislature. There has been no systematic re-valuation of property nor central agency to supervise the re-assessments. General re-assessments have been brought about only by special acts passed at irregular intervals and then only after conditions had become intolerable. That the legislature has not been awake to the wisdom of a regular, periodical and frequent re-adjustment will appear from the statement that in the last one hundred years there have been but five general re-assessments throughout the state. Between these re-assessments the local governing bodies in the counties, though vested with the general power to change assessments, have failed to exercise this power. Such changes as have been made consist only of the addition of new improvements and of some newly acquired personal property. On the other hand the power to reduce assessments has been liberally exercised.

The unit of local government in Maryland is the board of county commissioners. In some counties the incorporated towns, all of which have special charters, have an elaborate system of local self-government with the power to re-assess the property within their limits, for municipal purposes only. This has given rise to the objectionable system of dual assessments.

Until 1878 the shares of domestic corporations were assessed locally and it was only after the establishment of the office of State Tax Commissioner in that year that the shares of such corporations were made subject to assessment by a central agency, upon which assessment the local taxes were levied against the holders of the shares at the respective localities of their residence. The corporation was required to pay these taxes for the shareholders. The powers of the State Tax Commissioner remained practically the same from that date, and the duties of the office in respect to the general assessment and equalization of other property in the state were merely of a perfunctory character.

The creation of the present State Tax Commission by Chapter 841 of the Acts of 1914, following the example of a large number of progressive states, gives

Maryland the opportunity to improve the administration of its tax laws. It will also give to the legislature the benefit of expert advice, from time to time, as to changes needed in the tax laws.

The subject of taxation is now receiving more attention than ever before. This has been brought about by the demand everywhere for greater facilities and improvements in such departments as roads, sanitation, health, and for the regulation of public service corporations. All these activities require increased expenditures of the public funds.

Professor Charles J. Bullock of Harvard University has written an article on the alarming aspect of the increase in the tax rate of the City of New York, which is applicable to similar tendencies in other communities. This writer finds no relief which the future can offer.

The act creating the State Tax Commission of Maryland vests in the Commission, besides all the functions heretofore exercised by the State Tax Commissioner, a general supervisory power over local assessments of real and personal property throughout the state. It is far-reaching in the administrative functions which it confers upon the Commission, which includes also co-operation with other state officers. A close observation demonstrates that many of the ills of government in Maryland are attributable to a lack of co-operation among the different departments. As long as a low state tax rate prevailed, taxation was a less serious problem, but with increased and increasing appropriations, this problem has become more or less acute. The hope of a proper adjustment of the public burdens now lies in the State Tax Commission.

The principal tax provisions of Maryland are contained in Article 81 of the Code of Public Civil Laws. It would be impossible to set forth in an article of reasonable length, all the features of our system, the changes which have been or should be made, and the details of recent legislation. Only the principal changes, therefore, are referred to.

Up to 1914 all domestic corporations (except steam railroad companies) were assessed on their shares. The tax on the net assessed value of the shares was imposed for state purposes at the regular state rate, and for local purposes at the varying local rates prevailing at the residences of the shareholders. Foreign corporations (in addition to being required to pay a registration fee to the Secretary of State) are subject to an annual franchise tax of $25 for every $50,000 of capital employed in the state up to $500,000, and with graduated rates beyond that amount. They are also required to pay a tax on their tangible property within the state in the same manner as applies to individuals.

At the last session of the legislature an act was passed (Chapter 324) under which the shares of domestic "ordinary business corporations" are exempted from taxation, and such corporations are to be assessed by the State Tax Commission directly on their taxable assets. This is a reform for which the business interests of the state have been striving for several years, but it is to be regretted that

county domination of the legislature was able to insert in the act a provision under which the local tax on the personal property of such corporations is not to be paid to the locality where the property is situated and receives protection, but is to be divided among the communities where the shareholders reside, in the proportion of their holdings.

Besides this tax on personal property, domestic business corporations are required to pay annually a franchise tax in an amount of $10 on the outstanding capital stock, provided the capital does not exceed $5,000. Where such stock is over $5,000, an additional tax of $1 for every $1,000 up to $50,000 of capital is imposed; and for each additional $50,000 the rate is $25 up to $500,000. Over $500,000 and up to $5,000,000 the rate is $250 for each $1,000,000; and in excess of $5,000,000 it is $100 for each additional $1,000,000.

Ordinary business corporations are defined in the act as follows:

"All corporations having a capital stock, shall, for the purpose of this Act, be ordinary business corporations, and are hereby so defined, except railroad companies whose roads are worked by steam, electric or other power, street and passenger railways, steamship and steamboat companies, and all other common carriers, telegraph, cable, telephone, express, transportation, parlor car, sleeping car, and oil pipe companies, turnpike companies, bridge companies and sewerage disposal companies, safe deposit and trust companies, guarantee and fidelity companies, insurance companies of all kinds, electric light, electric construction, heating, refrigerating, water and gas companies, building or homestead associations, State, national and savings banks, or savings or moneyed institutions."

All other corporations heretofore subject to the tax on shares of capital stock are therefore still subject to such tax, the assessable value of their shares being computed by the State Tax Commission from reports filed with the Commission or from any other information obtainable.

The City of Baltimore, also Anne Arundel and Harford Counties, as well as several incorporated cities in other counties, have for years, under local laws, exempted certain property of manufacturing plants from local taxation. The exemption covered tools, machinery, manufacturing implements and engines belonging to individuals and corporations, used in the manufacture of articles of commerce; but there was no exemption from state taxation. In case of domestic corporations, the exemption allowed was only a pro rata exemption, because only the shares taxable in the locality where the plant was located, received the allowance; thus for instance, in the case of a domestic corporation located in Baltimore City, with 1,000 shares, of which 250 are held by residents of Baltimore City and 750 by residents of Baltimore County, there would be no credit on the Baltimore County shares, while the Baltimore City shares would receive a pro rata credit amounting to one-fourth of the assessed value of the machinery, etc.

This complicated arrangement has not been generally understood and has quite naturally given rise to misunderstandings.

Chapter 528 of the Acts of 1914 was passed with the object of exempting

the machinery, etc., of manufacturers (including foreign corporations) from the state tax in all cases where it was exempted from the local tax. The act, moreover, empowers all the counties to pass resolutions conferring such exemption. In the case of domestic corporations, the scheme of the act was to allow a deduction of exempted plant (*i. e.,* machinery, implements, etc.) in the same manner as real estate is deducted, that is to say, both for state and local purposes, and against all the shares without reference to the residences of the shareholders. While under a later act (Chapter 324) a radical change is made in the method of taxing business corporations, that is, by substituting a tax on assets for the tax on shares, the entire exemption of manufacturing machinery for state as well as local purposes is preserved in all cases where the machinery has been exempted by law or ordinance from county or municipal taxation.

It was urged upon the legislature, in advocacy of these exemptions, that the values created by manufacturing enterprises are of greater consequence than the actual values of the manufacturing plants themselves.

Before discussing other changes made in the laws by the General Assembly of 1914, it may not be amiss to refer briefly to existing laws concerning the taxation of other corporations in Maryland.

Certain enumerated classes of corporations pay a gross receipts tax at rates which are specially fixed for each class and in some cases are graduated. Computation of the tax is made by the State Tax Commission from reports filed by the corporations. Railroads, either domestic or foreign, pay a franchise tax on their business in Maryland varying from 1¼ per cent. on the first one thousand dollars per mile of gross earnings (or on the total earnings if they are less than one thousand dollars per mile) to 2½ per cent. on that part of the earnings which is in excess of two thousand dollars per mile Other classes taxable on gross receipts include express, transportation, parlor car, sleeping car, safe deposit, guarantee, fidelity, title insurance, telegraph, cable, telephone, gas and electric light companies. The tax also applies to *foreign* phosphate, guano and fertilizer companies.

The shares of domestic railroad companies are exempt from taxation while their real and personal property is taxable for local purposes as if owned by an individual, but it is exempt from the direct State tax.

Savings banks pay an annual franchise tax of 25 cents on every hundred dollars of deposits. Insurance companies, fire, life, marine and inland, pay a tax on premiums.

The shares of banks (state and national) were heretofore assessed like other corporations and local taxes levied thereon according to the varying local rates prevailing where the respective shareholders resided. Profiting by the examples of Pennsylvania, New York, Connecticut and other states where low, fixed rates are in effect, the legislature of Maryland amended the law so as to impose a uniform local rate of 1 per cent. No change was made in the credits allowed.

The additional state tax was also retained. The selection of Richmond as a Reserve City was the leading inducement for favorable action, after several years of futile effort.

Another change in the law that deserves special mention is the act exempting the obligations of Maryland counties, towns and cities from all taxation. The new policy is in line with that of other progressive states and also with the general policy of the United States government in exempting from the income tax the interest on state and municipal bonds.

Interest-paying obligations of corporations and dividend-paying shares of foreign corporations have, since 1896, been subject to a fixed local rate of 30 cents per $100 of assessed value, in addition to the regular state tax rate, which has fluctuated between 16 cents and 31 cents. The aggregate tax rate has therefore ranged from 46 cents to 61 cents (the rate for 1914). Recognizing that the peculiar characteristics of these forms of intangible property made it desirable that the rate should not only be stable, but should not be at such a figure as would encourage wholesale evasion or discourage the investment of funds in taxable securities, the legislature of 1914 (Chapter 411) amended the law so as to provide a maximum rate of 15 cents for state purposes, leaving the local rate at 30 cents. The aggregate rate therefore will be 45 cents, or 4½ mills on the dollar for 1915 and thereafter. Although the original security tax act of 1896 produced an enormous increase in state's revenue (and also in the local revenues of such cities and counties as made proper efforts to apply the law) even greater results are looked for under the new law.

Maryland, although not the first state to pass an act putting a low rate on intangibles, is the state in which the greatest success has been achieved in uncovering this intangible personal property. Even an imperfect law capably and vigorously administered brings better results than a better law, poorly administered. The credit for Maryland's fame throughout the country in connection with the security tax must be awarded to the Appeal Tax Court of Baltimore City which achieved extraordinary results. In Baltimore County also, by the application of improved methods of administration, there has recently been a very large increase in the basis, most of it due to the efforts of a single assessor.

Another change of this year provides for the exemption of household furniture to the extent of $500. Since 1910 there has been in Baltimore City and Baltimore County an exemption of $300 on furniture, provided the total value of the furniture did not exceed $300 and that the owner did not possess any other property, real or personal. This act was unfair and gave little relief. The new act applies to all persons and in all sections of the state.

An act to which little attention was paid is Chapter 390, which proposes an amendment to Article 15 of the Declaration of Rights so as to permit the classification of property for taxation. Under judicial interpretation certain statutory classifications have been sustained. Under the proposed Constitu-

tional Amendment, if adopted, there could be a further classification by which land could be made subject to one rate of taxation and improvements subject to another rate. Under the amendment authority may be given by the legislature to the local governing bodies to provide for the exemption of a portion of improvements from taxation.

Although having only an indirect bearing upon taxation, allusion should be made in closing this memorandum to the act establishing the serial plan in the issuance of state loans. The departure from the sinking fund plan may be regarded as a notable advance step, which has already borne fruit in the favorable terms upon which the recent sale of a large block of state bonds was made.

BALTIMORE'S GEOGRAPHICAL ADVANTAGES

The accompanying maps vividly illustrate the pre-eminence of Baltimore as the logical centre of distribution for the South in comparison with designated cities to the North and West. The particular section of the South to which Baltimore has the advantage of lower freight rates by reason of proximity, can with propriety be termed "tributary territory." This tributary territory should be systematically canvassed and every effort put forth individually and collectively by the merchants and manufacturers to control the trade therein located. If competition is encountered in this field from cities that labor under the disadvantage of freight rates, it is because the competitor has equalized the freight by absorbing the difference, thereby appreciably curtailing his margin of profit, or he has made quality subservient to price.

An exhaustive inquiry, intelligently conducted, should develop the basis of this competition, whereupon the proper remedy can be administered either through employing tactics identical with those of the competitor in the one case or instituting an educational campaign to apprize the trade of the intricacies peculiar to the business which has made this competition possible on an unfair basis.

The present competitive situation as respects Baltimore City presents a condition which must also be given immediate consideration and a solution arrived at to comprehend how the outside competitors, manufacturing at no less cost and producing goods of no greater value than Baltimore manufacturers, can directly control the bulk of the retail business in this city.

Freight rate advantage is a highly coveted adjunct to the industrial life of a community, as it spells stability for its commercial development. The question of discrimination has been raised repeatedly by other cities affected and investigations instituted with a view of compelling the readjustment of Baltimore's differential freight rates, but these attempts have uniformly been frustrated by the railroads and trade organizations through the intelligent exploitation of Baltimore's relative geographical location and consequent justification of prevailing differentials.

A careful study should be made of the question of territorial rights with a view of determining what competitive centres are going beyond their logical bounds in competing with Baltimore, and the fundamental reasons ascertained for the existence of this condition, to the end that action may be taken in the nature of a reciprocal campaign to counteract the influence of this competition.

Retaliation should take the form of encroachment on the competitors' sphere to the extent that they have invaded Baltimore's tributary territory. This will have a tendency to put them on the defensive rather than encourage a continuance of conditions that are improper and reflect on the energy and integrity of our people. As soon as this contingency is met and the situation reversed it will result in an increased demand on the labor market with consequent general benefit to the community.

The eleven tables of rates displayed in conjunction with maps on subsequent pages were compiled under the supervision of the Traffic Bureau of the Baltimore Chamber of Commerce. They present the freight rate situation existing as of October 1st, 1914, and form the basis for the respective divisions of territory noted.

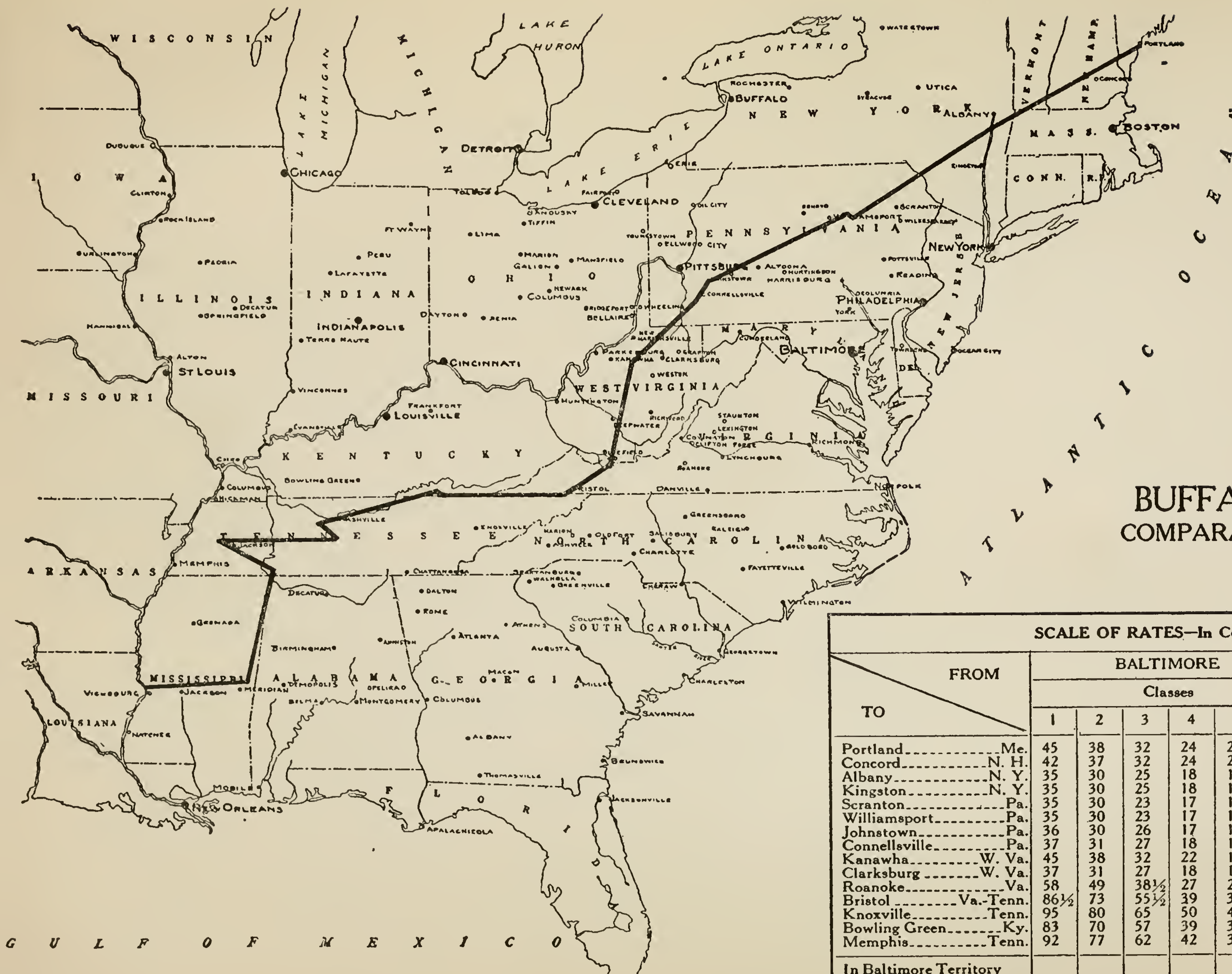
NEW YORK
COMPARATIVE

SCALE OF RATES—In Cents per 100 Pounds												
FROM / TO	BALTIMORE Classes						NEW YORK Classes					
	1	2	3	4	5	6	1	2	3	4	5	6
Buffalo .... N. Y.	39	33	28	19	16	13	39	33	28	19	16	13
Rochester .... N. Y.	35	30	25	18	15	13	35	30	25	18	15	13
Syracuse .... N. Y.	35	30	25	18	15	13	35	30	25	18	15	13
Scranton .... Pa.	35	30	23	17	15	12	35	30	23	17	15	12
Wilkes Barre .... Pa.	35	30	23	17	15	12	35	30	23	17	15	12
Williamsport .... Pa.	35	30	23	17	15	12	35	30	23	17	15	12
Reading .... Pa.	27	22	18	13½	11½	10	30	25	21	15	13	11
Philadelphia .... Pa.	23	20	18	12	10	9	22	18	15	12	10½	9½
Atlantic City .... N. J.	30	27	25	19	17	16	34	28	23	19	15	14
Ocean City .... N. J.	30	27	25	19	17	16	36	30	23	20	18	16
In Baltimore Territory												
Harrisburg .... Pa.	27	22	18	13	11½	10	33	28	22	17	15	12
Altoona .... Pa.	36	30	26	17	14	11	44	38	29	20	17	14
Pittsburgh .... Pa.	37	31	27	18	15	12	45	39	30	21	18	15
Columbus .... O.	51	43	36	24	20	17	59	51	39	27	23	20
Indianapolis .... Ind.	62	52	44	30	25	20	70	60	47	33	28	23
St. Louis .... Mo.	80	68	56	38	32	26	88	76	59	41	35	29
Richmond .... Va.	26	22	18	16	13	10	32	27	23	20	15	12
Charleston .... S. C.	54	44	34	26	22	17	57	47	37	29	24	19
Savannah .... Ga.	*57	47	37	29	24	19	†57	47	37	29	24	19
Jacksonville .... Fla.	*67	57	47	33	26	20	†67	57	47	33	26	20
Demopolis .... Ala.	99	87	76	62	53	43	106	93	81	67	57	46
[illegible]	98	87	79	72	62	57	106	95	82	75	65	60

PHILADELPHIA
COMPARATIVE

SCALE OF RATES—In Cents per 100 Pounds

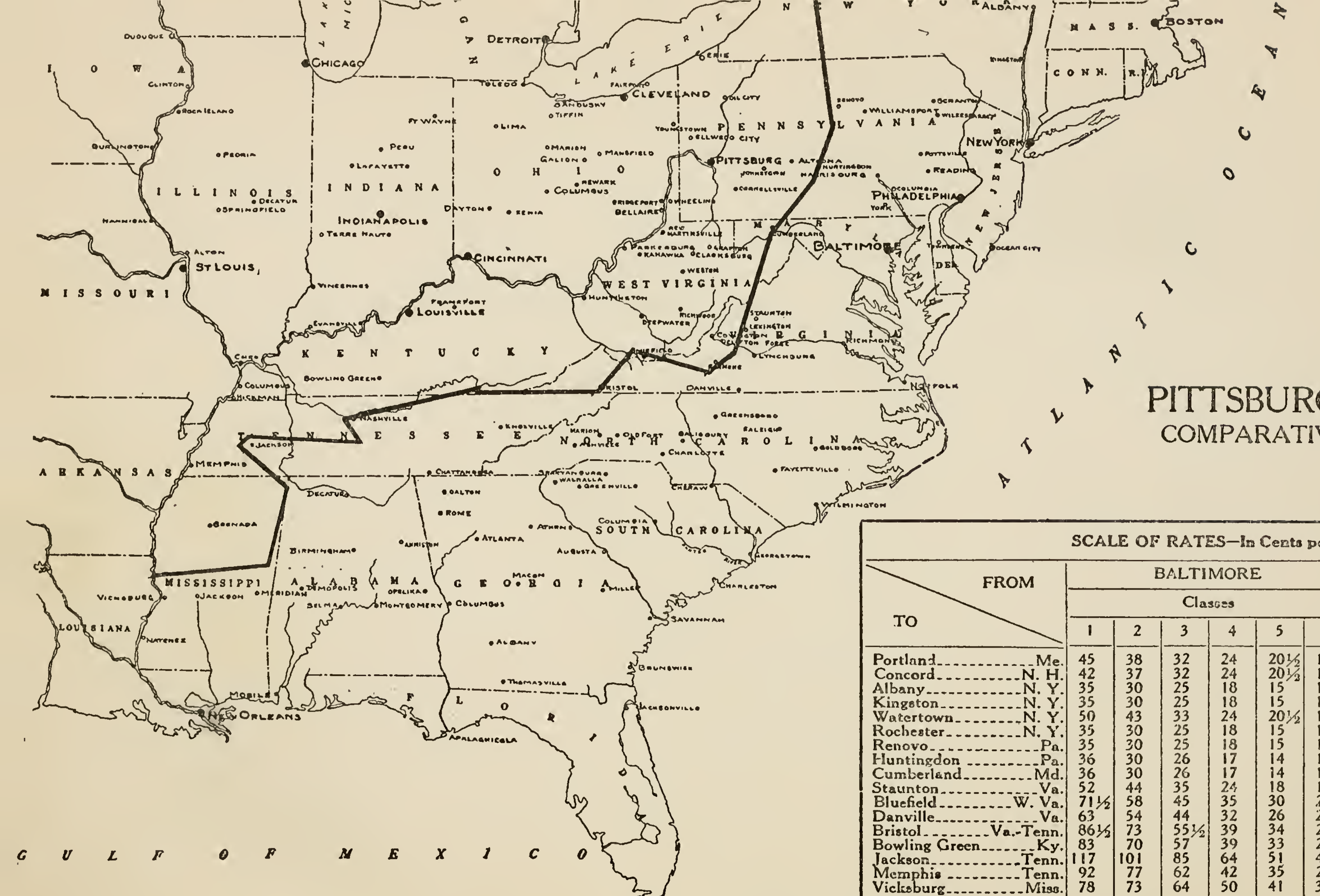
TO / FROM	BALTIMORE Classes 1	2	3	4	5	6	PHILADELPHIA Classes 1	2	3	4	5	6
Buffalo............N. Y.	39	33	28	19	16	13	39	33	28	19	16	13
Rochester..........N. Y.	35	30	25	18	15	13	35	30	25	18	15	13
Watertown..........N. Y.	50	43	33	24	20½	17	50	43	33	24	20½	17
Ogdensburg.........N. Y.	50	43	33	24	20½	17	50	43	33	24	20½	17
Burlington.........Vt.	52	45	35	24	20½	17	50	43	33	24	20½	17
Utica..............N. Y.	35	30	25	18	15	13	35	30	25	18	15	13
Syracuse...........N. Y.	35	30	25	18	15	13	35	30	25	18	15	13
Albany.............N. Y.	35	30	25	18	15	13	35	30	25	18	15	13
Kingston...........N. Y.	35	30	25	18	15	13	35	30	25	18	15	13
Scranton...........Pa.	35	30	23	17	15	12	35	30	23	17	15	12
Wilkes-Barre.......Pa.	35	30	23	17	15	12	35	30	23	17	15	12
Pottsville.........Pa.	27	22	18	13½	11½	10	27	22	18	13½	11½	10
Columbia...........Pa.	27	22	18	12	11	10	27	22	18	13	11½	10
Iron Hill..........Md.	22	18	14	9	8	8	22	18	14	9	8	8
Townsend...........Del.	27	22	17	15	12	11	27	22	17	15	12	11
In Baltimore Territory												
Harrisburg.........Pa.	27	22	18	13	11½	10	27	22	18	13½	11½	10
Altoona............Pa.	36	30	26	17	14	11	38	32	27	18	15	12
Pittsburgh.........Pa.	37	31	27	18	15	12	39	33	28	19	16	13
Cincinnati.........O.	57	49	41	27	23	19	59	51	42	28	24	20
Indianapolis.......Ind.	62	52	44	30	25	20	64	54	45	31	26	21
Chicago............Ill.	67	57	47	32	27	22	69	59	48	33	28	23
Norfolk............Va.	26	22	18	16	13	10	30	25	21	18	14	11
Bristol.......Va.-Tenn.	86½	73	55½	39	34	26	91½	78	60½	42	37	28
Columbia...........S. C.	70	57	48	37	32	23	75	62	50	42	35	25
Atlanta............Ga.	98	87	78	63	52	41	105	93	83	68	56	44
Meridian...........Miss.	89	78	72	62	51	42	96	84	75	65	54	45
Selma..............Ala.	89	79	70	57	49	39	96	85	75	62	53	42



BUFFALO
COMPARATIVE

SCALE OF RATES—In Cents per 100 Pounds

FROM / TO	BALTIMORE Classes 1	2	3	4	5	6	BUFFALO Classes 1	2	3	4	5	6
Portland..............Me.	45	38	32	24	20½	17	45	38	32	24	18½	15
Concord..............N. H.	42	37	32	24	20½	17	44	38	30½	23	18½	15
Albany..............N. Y.	35	30	25	18	15	13	34	29	24	17	14	11
Kingston..............N. Y.	35	30	25	18	15	13	39	33	28	19	16	13
Scranton..............Pa.	35	30	23	17	15	12	39	33	28	19	16	13
Williamsport..............Pa.	35	30	23	17	15	12	35	30	23	16	14	12
Johnstown..............Pa.	36	30	26	17	14	11	39	33	28	19	16	13
Connellsville..............Pa.	37	31	27	18	15	12	38	32½	25	16½	13½	12
Kanawha..............W. Va.	45	38	32	22	18	15	44	38	29	20	17	14
Clarksburg..............W. Va.	37	31	27	18	15	12	44	38	29	20	17	14
Roanoke..............Va.	58	49	38½	27	23	19	59	50	41	28	24	19
Bristol..............Va.-Tenn.	86½	73	55½	39	34	26	86½	73	55½	39	34	26
Knoxville..............Tenn.	95	80	65	50	45	37	115	98	81	64	55	44
Bowling Green..............Ky.	83	70	57	39	33	28	83	72	58	44	36	30
Memphis..............Tenn.	92	77	62	42	35	29	91	70	59	46	39	33
In Baltimore Territory												
Harrisburg..............Pa.	27	22	18	13	11½	10	39	33	28	19	16	13
Altoona..............Pa.	36	30	26	17	14	11	39	33	28	19	16	13
New York..............N. Y.	34	29	23	18	15	12	39	33	28	19	16	13

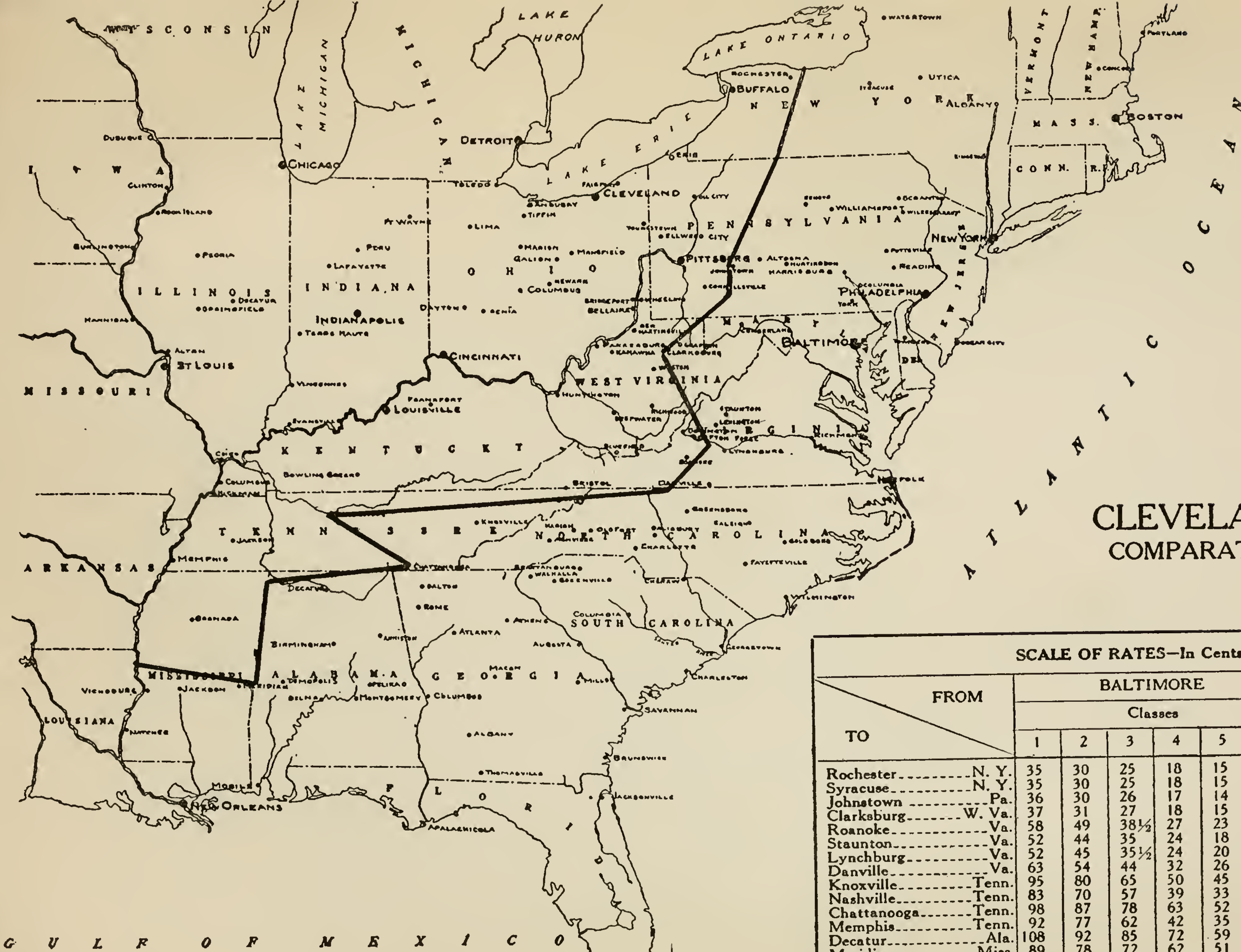


PITTSBURGH
COMPARATIVE

SCALE OF RATES—In Cents per 100 Pounds

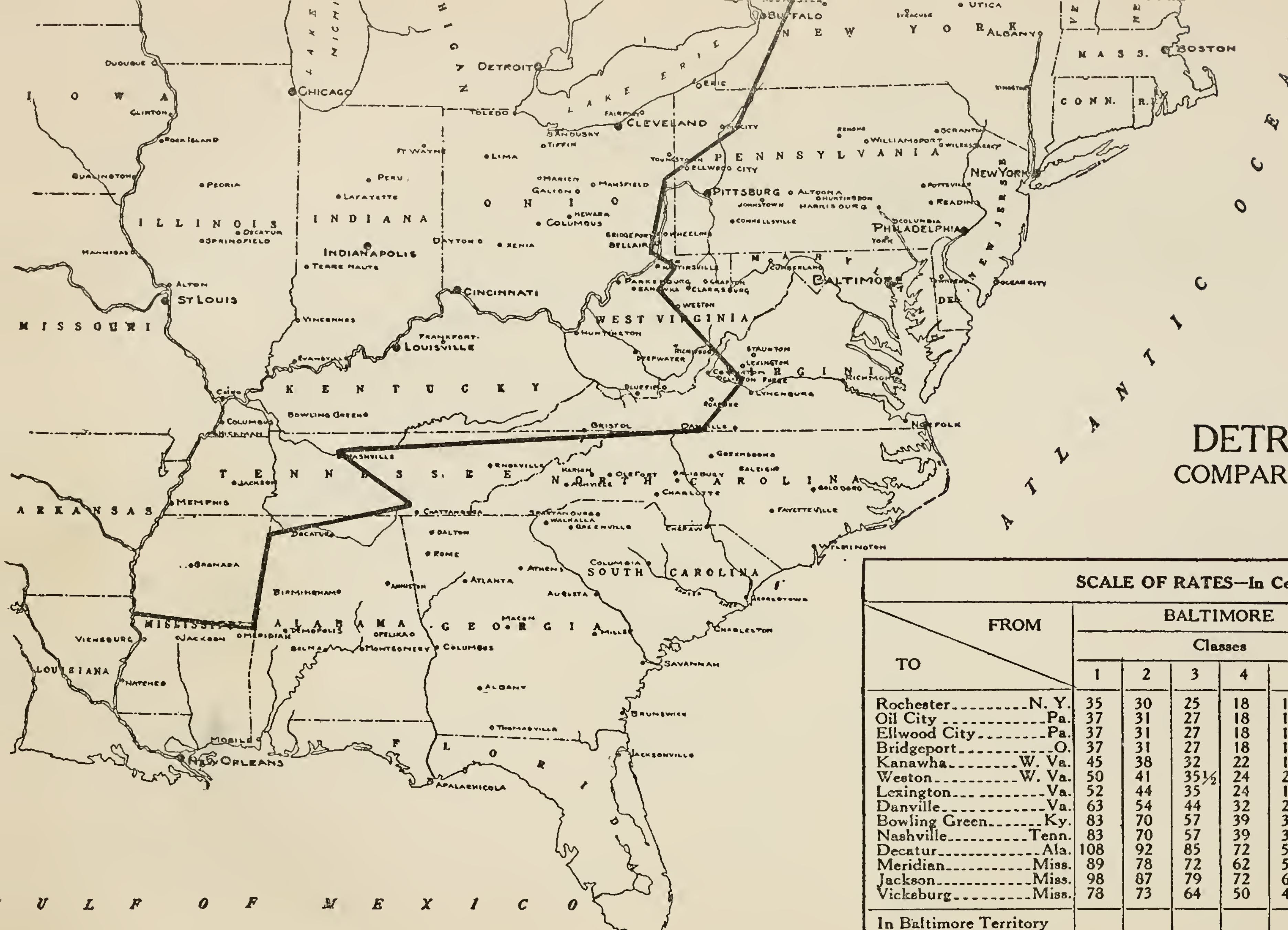
FROM / TO	BALTIMORE Classes 1	2	3	4	5	6	PITTSBURGH Classes 1	2	3	4	5	6
Portland, Me.	45	38	32	24	20½	17	50	43	33	24	20½	17
Concord, N. H.	42	37	32	24	20½	17	50	43	33	24	20½	17
Albany, N. Y.	35	30	25	18	15	13	45	39	30	21	18	15
Kingston, N. Y.	35	30	25	18	15	13	45	39	30	21	18	15
Watertown, N. Y.	50	43	33	24	20½	17	50	43	33	24	20½	17
Rochester, N. Y.	35	30	25	18	15	13	36	31	23	15	13	11
Renovo, Pa.	35	30	25	18	15	12	37	31	25	17½	15	12
Huntingdon, Pa.	36	30	26	17	14	11	36	30	25	17	14	11
Cumberland, Md.	36	30	26	17	14	11	36	30	23	16	14	11
Staunton, Va.	52	44	35	24	18	15	54½	47	35½	24	20	16
Bluefield, W. Va.	71½	58	45	35	30	25	79	68	53	35	29	22
Danville, Va.	63	54	44	32	26	21	82	67	56	41	35	26
Bristol, Va.-Tenn.	86½	73	55½	39	34	26	86½	73	55½	39	34	26
Bowling Green, Ky.	83	70	57	39	33	28	83	72	58	44	36	30
Jackson, Tenn.	117	101	85	64	51	46	117½	101½	82	64	51½	47½
Memphis, Tenn.	92	77	62	42	35	29	91	70	59	46	39	33
Vicksburg, Miss.	78	73	64	50	41	37	116	95	79	61	49	43
In Baltimore Territory												
New York, N. Y.	34	29	23	18	15	12	45	39	30	21	18	15
Norfolk, Va.	26	22	18	16	13	10	54½	47	35½	24	20	16
Raleigh, N. C.	78	67	55	43	37	28	107	90	75	55	47	36
Atlanta, Ga.	98	87	78	63	52	41	126	115	95	73	60	52
Birmingham, Ala.	107	92	83	70	57	46	124	108	88	68	58	45
New Orleans, La.	70	60	50	40	35	30	116	95	79	61	49	43

CLEVELAND
COMPARATIVE



FROM / TO	BALTIMORE Classes 1	2	3	4	5	6	CLEVELAND Classes 1	2	3	4	5	6
Rochester ---- N. Y.	35	30	25	18	15	13	33½	29	22½	15½	13½	11
Syracuse ---- N. Y.	35	30	25	18	15	13	39	34	26½	18½	16	13
Johnstown ---- Pa.	36	30	26	17	14	11	37½	32	26	18	14	11½
Clarksburg ---- W. Va.	37	31	27	18	15	12	37	31	27	18	15	12
Roanoke ---- Va.	58	49	38½	27	23	19	54½	47	35½	24	20	16
Staunton ---- Va.	52	44	35	24	18	15	54½	47	35½	24	20	16
Lynchburg ---- Va.	52	45	35½	24	20	16	54½	47	35½	24	20	16
Danville ---- Va.	63	54	44	32	26	21	90½	75	58½	42	36	27
Knoxville ---- Tenn.	95	80	65	50	45	37	113	97	80	62	53	40
Nashville ---- Tenn.	83	70	57	39	33	28	81	70	55½	42	34	28
Chattanooga ---- Tenn.	98	87	78	63	52	41	107	92	76	59	51	39
Memphis ---- Tenn.	92	77	62	42	35	29	91	70	59	46	39	33
Decatur ---- Ala.	108	92	85	72	59	48	122	106	85½	66	56	43
Meridian ---- Miss.	89	78	72	62	51	42	138½	120½	96	77	63½	54½
Jackson ---- Miss.	98	87	79	72	62	57	138½	120½	96	77	63½	54½
In Baltimore Territory												
Utica ---- N. Y.	35	30	25	18	15	13	44	38	29½	20½	18	14½
Altoona ---- Pa.	36	30	26	17	14	11	39	34	26½	18½	16	13
Cumberland ---- Md.	36	30	26	17	14	11	39	34	26½	18½	16	13
Richmond ---- Va.	26	22	18	16	13	10	54½	47	35½	24	20	16
Charlotte ---- N. C.	85	74	61	49	42	32	111½	97	75½	56	47	37
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	126	[illegible]	76	63	56

DETROIT
COMPARATIVE

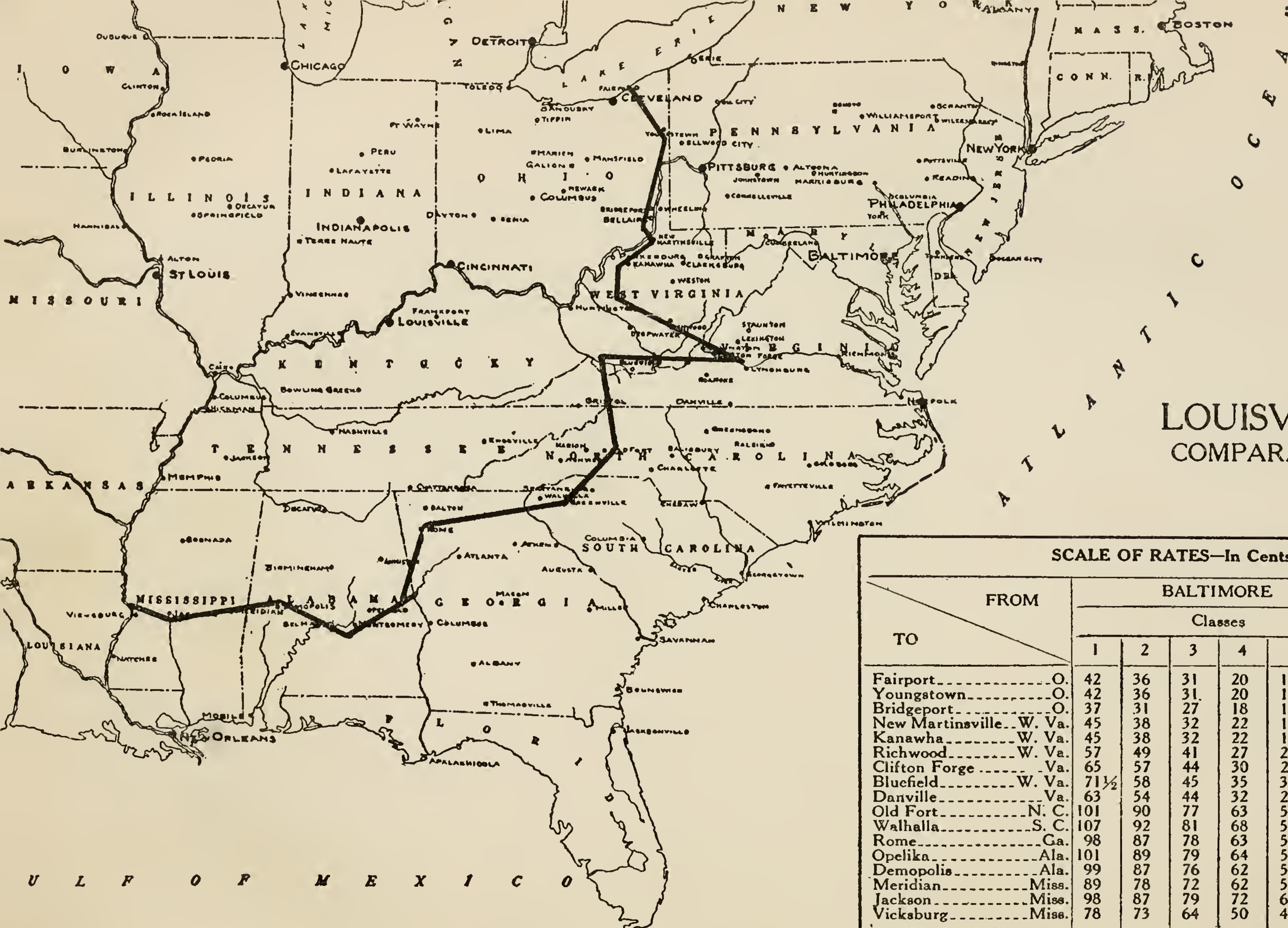


SCALE OF RATES—In Cents per 100 Pounds

FROM / TO	BALTIMORE Classes 1	2	3	4	5	6	DETROIT Classes 1	2	3	4	5	6
Rochester........N. Y.	35	30	25	18	15	13	40	34½	26½	18½	16	13½
Oil City..........Pa.	37	31	27	18	15	12	36	31	23	16	13	10
Ellwood City........Pa.	37	31	27	18	15	12	41	35	26	18	15	12
Bridgeport.........O.	37	31	27	18	15	12	41	35	26	18	15	12
Kanawha.........W. Va.	45	38	32	22	18	15	46	39	29	20	17	14
Weston..........W. Va.	50	41	35½	24	20	16	51	43	32	23	19	15
Lexington..........Va.	52	44	35	24	19	16	55½	47½	36	24½	20½	16½
Danville..........Va.	63	54	44	32	26	21	91½	75½	59	42½	36½	27½
Bowling Green........Ky.	83	70	57	39	33	28	81	69½	55½	42	34	28
Nashville..........Tenn.	83	70	57	39	33	28	81	69½	55½	42	34	28
Decatur..........Ala.	108	92	85	72	59	48	122	105½	85½	66	56	43
Meridian..........Miss.	89	78	72	62	51	42	133½	116½	93	74	61½	52½
Jackson..........Miss.	98	87	79	72	62	57	133½	116½	93	74	61½	52½
Vicksburg..........Miss.	78	73	64	50	41	37	116	95	79	61	49	43
In Baltimore Territory												
Syracuse..........N. Y.	35	30	25	18	15	13	44½	38½	29½	21	18	15
Connellsville..........Pa.	37	31	27	18	15	12	46	39	29	20	17	14
Clarksburg........W. Va.	37	31	27	18	15	12	46	39	29	20	17	14
Staunton..........Va.	52	44	35	24	18	15	55½	47½	36	24½	20½	16½
Raleigh..........N. C.	78	67	55	43	37	28	105½	90½	70	50½	42½	33½
Chattanooga........Tenn.	98	87	78	63	52	41	108½	93	77½	60½	52	40
Atlanta..........Ga.	98	87	78	63	52	41	136½	120	102½	79½	66	52
Mobile..........Ala.	75	65	54	44	38	33	116	95	79	61	49	43

CINCINNATI
COMPARATIVE

SCALE OF RATES—In Cents per 100 Pounds												
FROM	BALTIMORE						CINCINNATI					
	Classes						Classes					
TO	1	2	3	4	5	6	1	2	3	4	5	6
Buffalo N. Y.	39	33	28	19	16	13	42	36	27	18½	15½	13
Erie Pa.	37	31	27	18	15	12	42	36	27	18½	15½	13
Ellwood City Pa.	37	31	27	18	15	12	41	35	26	18	15	12
Bridgeport O.	37	31	27	18	15	12	38½	33	24½	16½	14	11
Bellaire O.	37	31	27	18	15	12	38½	33	24½	16½	14	11
Kanawha W. Va.	45	38	32	22	18	15	46	39	29	20	17	14
Weston W. Va.	50	41	35½	24	20	16	52	45	35	24½	21	17
Lexington Va.	52	44	35	24	19	16	62	53½	40½	27½	23	18½
Clifton Forge Va.	65	57	44	30	26	22	62	53½	40½	27½	23	18½
Roanoke Va.	58	49	38½	27	23	19	62	53½	40½	27½	23	18½
Old Fort N. C.	101	90	77	63	52	44	101	90	77	60	50	41
Walhalla S. C.	107	92	81	68	56	46	105	94	84	68	56	44
Columbia S. C.	70	57	48	37	32	23	105	94	84	68	56	44
Rome Ga.	98	87	78	63	52	41	98	87	78	63	52	41
Opelika Ala.	101	89	79	64	53	42	113	100	91	73	61	49
Demopolis Ala.	99	87	76	62	53	43	113	101	92	73	60	49
Jackson Miss.	98	87	79	72	62	57	106	92	78	66	55	48
Vicksburg Miss.	78	73	64	50	41	37	98	83	73	54	44	39
In Baltimore Territory												
Rochester N. Y.	35	30	25	18	15	13	48	42	32	22½	19	16
Pittsburgh Pa.	37	31	27	18	15	12	41	35	26	18	15	12
Cumberland Md.	36	30	26	17	14	11	52	45	35	24½	21	17



LOUISVILLE
COMPARATIVE

SCALE OF RATES—In Cents per 100 Pounds.

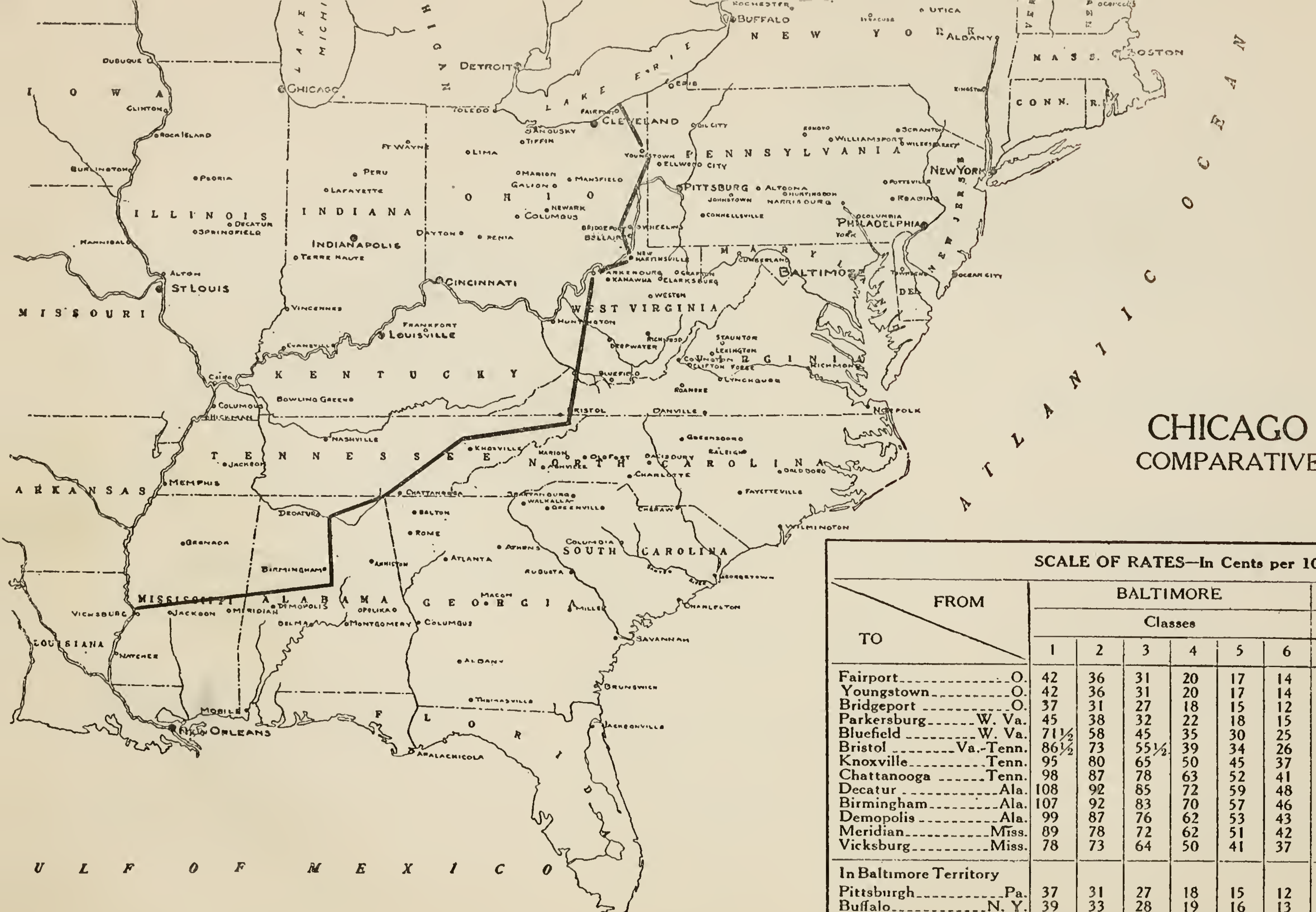
TO / FROM	BALTIMORE Classes 1	2	3	4	5	6	LOUISVILLE Classes 1	2	3	4	5	6
Fairport .... O.	42	36	31	20	17	14	45	39	30	21	18	15
Youngstown .... O.	42	36	31	20	17	14	45	39	30	21	18	15
Bridgeport .... O.	37	31	27	18	15	12	45	39	30	21	18	15
New Martinsville .. W. Va.	45	38	32	22	18	15	45	39	30	21	18	15
Kanawha .... W. Va.	45	38	32	22	18	15	50	43	33	23	20	17
Richwood .... W. Va.	57	49	41	27	23	19	60	52	40	28	24	20
Clifton Forge .... Va.	65	57	44	30	26	22	62	53½	40½	27½	23	18½
Bluefield .... W. Va.	71½	58	45	35	30	25	84	72	55	39	33	27
Danville .... Va.	63	54	44	32	26	21	68	56	45	33	28	21
Old Fort .... N. C.	101	90	77	63	52	44	101	90	77	60	50	41
Walhalla .... S. C.	107	92	81	68	56	46	105	94	84	68	56	44
Rome .... Ga.	98	87	78	63	52	41	98	87	78	63	52	41
Opelika .... Ala.	101	89	79	64	53	42	103	90	81	65	54	43
Demopolis .... Ala.	99	87	76	62	53	43	103	91	78	65	53	43
Meridian .... Miss.	89	78	72	62	51	42	98	84	70	59	49	43
Jackson .... Miss.	98	87	79	72	62	57	98	84	70	59	49	43
Vicksburg .... Miss.	78	73	64	50	41	37	90	75	65	50	40	35
In Baltimore Territory												
Buffalo .... N. Y.	39	33	28	19	16	13	45	39	30	21	18	15
Johnstown .... Pa.	36	30	26	17	14	11	55	47	36	26	22	18
Cumberland .... Md.	36	30	26	17	14	11	60	52	40	28	24	20
Cheraw .... S. C.	90	79	66	54	45	34	98	85	70	53	45	36
Charleston .... S. C.	54	44	34	26	22	17	87	74	70	66	55	44
Augusta .... Ga.	89	75	65	53	43	34	103	90	81	65	54	43
Savannah .... Ga.	57	47	37	29	24	19	87	74	70	66	55	44
Jacksonville .... Fla.	67	57	47	33	26	20	87	74	70	66	55	44
Natchez .... Miss.	78	73	64	50	41	37	90	75	65	50	40	35
New Orleans .... La.	70	60	50	40	35	30	90	75	65	50	40	35

INDIANAPOLIS
COMPARATIVE

SCALE OF RATES—In Cents per 100 Pounds

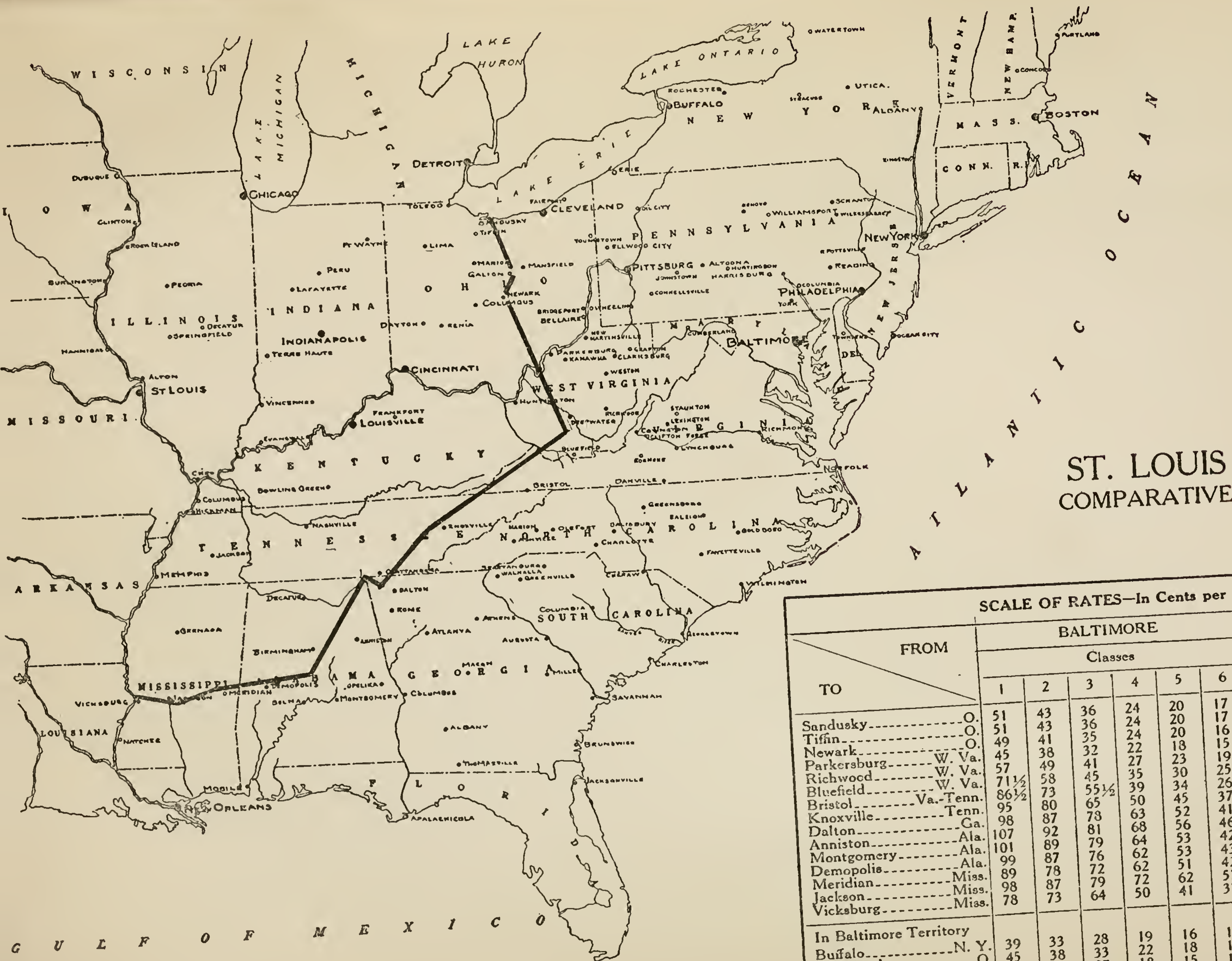
TO / FROM	BALTIMORE Classes 1	2	3	4	5	6	INDIANAPOLIS Classes 1	2	3	4	5	6
Fairport, O.	42	36	31	20	17	14	42	36	27	18½	15½	13
Painesville, O.	42	36	31	20	17	14	42	36	27	18½	15½	13
Oil City, Pa.	37	31	27	18	15	12	44	37½	28½	19½	17	14
Ellwood City, Pa.	37	31	27	18	15	12	44	37½	28½	19½	17	14
Bridgeport, O.	37	31	27	18	15	12	43	36½	27½	19	16½	13½
Kanawha, W. Va.	45	38	32	22	18	15	48	40½	30½	21	18½	15½
Weston, W. Va.	50	41	35½	24	20	16	55½	48½	37	26	22½	18½
Elkins, W. Va.	50	41	35½	24	20	16	55½	48½	37	26	22½	18½
Deepwater, W. Va.	65	57	44	30	26	22	66½	57½	43½	29½	25	20
Bluefield, W. Va.	71½	58	45	35	30	25	78½	67½	51½	36½	31	25
Knoxville, Tenn.	95	80	65	50	45	37	98	84½	74½	58	48½	37
Dalton, Ga.	98	87	78	63	52	41	119	103½	92½	74	60½	48
Anniston, Ala.	107	92	81	68	56	46	120	106½	95½	74	60½	48
Demopolis, Ala.	99	87	76	62	53	43	125	110½	95½	76	61½	50
Jackson, Miss.	98	87	79	72	62	57	112	95	79	66	55	48
Vicksburg, Miss.	78	73	64	50	41	37	98	83	73	54	44	39
In Baltimore Territory												
Erie, Pa.	37	31	27	18	15	12	44	37½	28½	19½	17	14
Johnstown, Pa.	36	30	26	17	14	11	53	44½	33½	24	20½	16½
Clarksburg, W. Va.	37	31	27	18	15	12	48	40½	30½	21	18½	15½
Danville, Va.	63	54	44	32	26	21	90	75½	62½	44	36½	28
Fayetteville, N. C.	85	74	61	49	39	26	111	97½	79½	58	47½	37
[illegible], S. C.	107	92	81	68	56	46	127	113½	101½	79	64½	51

CHICAGO
COMPARATIVE



TO \ FROM	BALTIMORE Classes 1	2	3	4	5	6	CHICAGO Classes 1	2	3	4	5	6
Fairport O.	42	36	31	20	17	14	44	37½	28½	19	16½	13½
Youngstown O.	42	36	31	20	17	14	44	37½	28½	19	16½	13½
Bridgeport O.	37	31	27	18	15	12	45	39	30	21	18	15
Parkersburg W. Va.	45	38	32	22	18	15	45	39	30	21	18	15
Bluefield W. Va.	71½	58	45	35	30	25	84	72	55	39	33	27
Bristol Va.-Tenn.	86½	73	55½	39	34	26	84	72	55	39	33	27
Knoxville Tenn.	95	80	65	50	45	37	111	95	79	62	53	40
Chattanooga Tenn.	98	87	78	63	52	41	105	90	75	59	51	39
Decatur Ala.	108	92	85	72	59	48	114	99	80	62	53	40
Birmingham Ala.	107	92	83	70	57	46	114.	99	80	62	53	40
Demopolis Ala.	99	87	76	62	53	43	138	121	100	80	66	53
Meridian Miss.	89	78	72	62	51	42	118	99	80	67	56	49
Vicksburg Miss.	78	73	64	50	41	37	110	90	75	58	47	41
In Baltimore Territory												
Pittsburgh Pa.	37	31	27	18	15	12	45	39	30	21	18	15
Buffalo N. Y.	39	33	28	19	16	13	45	39	30	21	18	15
Raleigh N. C.	78	67	55	43	37	28	117	101	78	56	47	37
Columbia S. C.	70	57	48	37	32	23	140	124	106	83	69	54
Atlanta Ga.	98	87	78	63	52	41	133	117	100	78	65	51
Mobile Ala.	75	65	54	44	38	33	110	90	75	58	47	41
New Orleans La.	70	60	50	40	35	30	110	90	75	58	47	41

SCALE OF RATES—In Cents per 100 Pounds



ST. LOUIS
COMPARATIVE

SCALE OF RATES—In Cents per 100 Pounds

FROM / TO	BALTIMORE Classes 1	2	3	4	5	6	ST. LOUIS Classes 1	2	3	4	5	6
Sandusky ....O.	51	43	36	24	20	17	52½	45	33½	23½	19½	16
Tiffin ....O.	51	43	36	24	20	17	52½	45	33½	23½	19½	16
Newark ....O.	49	41	35	24	20	16	52½	45	33½	23½	19½	16
Parkersburg ....W. Va.	45	38	32	22	18	15	56½	49	37½	26½	22½	18½
Richwood ....W. Va.	57	49	41	27	23	19	70	61	47	33	28	23
Bluefield ....W. Va.	71½	58	45	35	30	25	96½	83	63½	45	38	31
Bristol ....Va.-Tenn.	86½	73	55½	39	34	26	96½	83	63½	45	38	31
Knoxville ....Tenn.	95	80	65	50	45	37	109	94	79	62	53	40
Dalton ....Ga.	98	87	73	63	52	41	120	103	92	75	62	49
Anniston ....Ala.	107	92	81	68	56	46	121	106	95	75	62	49
Montgomery ....Ala.	101	89	79	64	53	42	121	106	95	74	60	49
Demopolis ....Ala.	99	87	76	62	53	43	126	110	99	77	63	51
Meridian ....Miss.	89	78	72	62	51	42	98	84	70	59	49	43
Jackson ....Miss.	98	87	79	72	62	57	98	84	70	59	49	43
Vicksburg ....Miss.	78	73	64	50	41	37	90	75	65	50	40	35
In Baltimore Territory												
Buffalo ....N. Y.	39	33	28	19	16	13	56½	49	37½	26½	22½	18½
Cleveland ....O.	45	38	33	22	18	15	52½	45	33½	23½	19½	16
Pittsburgh ....Pa.	37	31	27	18	15	12	56½	49	37½	26½	22½	18½
Raleigh ....N. C.	78	67	55	43	37	28	115	100	78	56	47	37
[illegible]	89	75	65	53	43	34	126	109	98	77	64	51
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	121	106	95	74	60	49